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IN THIS ISSUE

Van die Redaksie: Editorial

Vrye Hospitaaldienste in Transvaal

Free Hospitalization in the Transvaal

Original Articles

Acute Dilatation of the Stomach

Epistaxis

Leucotomy, Coma and Other Shock Treatments

New Preparations and Appliances

Passing Events

Association News: Verenigingsnuus

Correspondence

Support your Own Agency Department (P. xxv)

Ondersteun u Eie Agentskap-Afdeling (Bl. xxv)

Professional Appointments (Pp. xxv, xxvi)



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CONTENTS

Acute Dilatation of the Stomach: Report of an Unusual Case. Dr. J. J. Prog	645
Van die Redaksie: Vrye Hospitaaldienste in Transvaal	647
Editorial: Free Hospitalization in the Transvaal	647
Epistaxis. Dr. P. S. Meyrick	648
Leucotomy, Coma and Other Shock Treatments: Report of the Evidence Tendered on Behalf of the Medical Association of South Africa to the Judicial Committee of Inquiry. Mr. Rowland A. Krynow, F.R.C.S.	650
New Preparations and Appliances: Doctor's First-Aid Box (Dr. J. Duff Scott)	659
Association News: Verenigingsnuus. Southern Transvaal Branch (Memorandum on the Working of the Interim Suspension Ordinance); Statement by the Minister of Health at the Meeting held on 17 July 1951; Natal Coastal Branch: Meeting held on 27 June 1951 (Symposium on Backache); Meeting held on 10 July 1951 (Dr. C. Harrower on Three Years of the National Health Service in Great Britain)	659
Passing Events	663
Correspondence: Sick Funds, R.M.O.'s and the Medical Profession (Dr. H. Baum); Free Hospitalization in the Transvaal (D. P. Erk); The Non-European Medical School (Mr. E. Goldblatt)	664

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ACUTE DILATATION OF THE STOMACH

REPORT OF AN UNUSUAL CASE

J. J. PRAG, B.Sc. HONS., M.B., B.CH.

Government Laboratories, Union Health Department, Cape Town

Acute dilatation of the stomach is a serious condition which is fortunately rare. It occurs suddenly for no obvious reason. The stomach becomes ballooned with gas and fluids and the patient vomits large quantities of fluid. Shock is the predominating sign and pain, though present, is not a prominent feature.

Most recorded cases of acute dilatation of the stomach have appeared as post-operative or post-anesthetic complications, but they may occur in the course of any severe disease or even during convalescence. They may even follow simple manipulations. Markowski (1947) records four cases of acute dilatation caused by overloading the stomach with food. In all these patients there was a certain degree of emaciation and the patients were admitted to hospital after a period of starvation. Markowski considers this starvation to be a predisposing cause and that the sudden intake of food causes paralysis of the already weakened walls of the stomach.

Many etiological factors have been described. It was recognized as early as 1833 and since then numerous reports have appeared with theories about its mechanism. The chief groups are considered to be:

1. Those cases where dilatation occurs after surgical procedures, commonly after abdominal operations or plaster of Paris jackets.
2. Those occurring on the operating table while the patient was under the influence of a general anaesthetic.
3. Those arising as complications during the course of any severe wasting disease.

Acute gastric dilatation has been observed in a wide variety of conditions, e.g. in migraine, pulmonary tuberculosis and severe diabetes (MacRae, 1943; Stobie 1929; Wallace and Wevill, 1943). Lander (1945) describes a case of acute gastric dilatation in a woman aged 62 years in apparently good health and actively engaged in domestic work.

Dragstedt and his co-workers (1931) believe that acute dilatation of the stomach is due to reflex inhibition of the stomach through the efferent fibres in the vagi and the splanchnic nerves (anaesthesia, debilitating disease or mal-nutrition depressing the peripheral gastric motor mechanism). The functional and the anatomical conditions present in acute dilatation prevent the passage of gastric

and pancreatic juices into the lower intestine, so that these fluids accumulate in the dilated stomach.

There are thus undoubtedly multiple etiological factors in acute dilatation of the stomach.

Report of Case. A native male, 38 years old, was admitted to hospital on 16 December 1950. He had been stabbed in the back a few hours before.

On admission his blood pressure was 136/76 mm. Hg and his pulse rate was 90 per minute. He was drunk and he was vomiting. He had a stab wound 3-inch in length at the angle of the left scapula. Examination of the patient's chest revealed no abnormality. X-ray of the chest demonstrated 'a slight clouding at the left base'. The wound, which only penetrated the skin and muscle, was stitched.

The vomiting persisted for the next two days. Gastric suction and an intravenous drip were instituted. Gastric intubation yielded a large amount of dark fluid.

On 21 December, a further X-ray of the chest was taken and it was reported that 'the diaphragm was elevated to the fourth rib on the left side and that a small effusion was present. There was no free air under the diaphragm'.

By this time the vomiting had ceased and the gastric suction and the intravenous drip were stopped. The patient was able to tolerate oral feeds.

On 23 December the patient again started vomiting, and again the vomitus was dark and fluid. Later the same day he suddenly collapsed and became cold, clammy and pulseless. Physical examination of the chest showed no evidence of air entry on the left side. Pleural exploration just before death gave a few c.c. of dark fluid like that of his vomitus.

Autopsy Findings. The stomach was markedly dilated (Figs. 1 and 2). It was situated in the left pleural cavity above the diaphragm. The left lung was completely collapsed. The right lung was normal. Instead of the oesophagus, the pyloric end of the stomach passed through the oesophageal opening of the diaphragm. The oesophageal opening was perfectly normal in size and caused no constriction of the pylorus. The oesophagus

was very short and entered the cardiac end of the stomach at the level of the fourth left interspace. The gall bladder was dilated and there was complete collapse of the rest of the intestines (Fig. 2). The spleen lay in its normal position below the diaphragm.

The wound at the angle of the scapula had almost completely healed and had only penetrated the skin, sub-

cutaneous tissue and muscle. It did not pass through the pleura or enter the pleural cavity. The stomach contained 1 pint of dark-coloured fluid and was ballooned with gas.

There was no disease or injury of the diaphragm and it was complete on both right and left sides. The muscle fibres around the oesophageal opening were normal and there was no evidence of hypertrophy. It should be mentioned that the dilatation was limited to the stomach only and did not extend to the duodenum at all. It stopped short where the pylorus passed through the diaphragm.

DISCUSSION

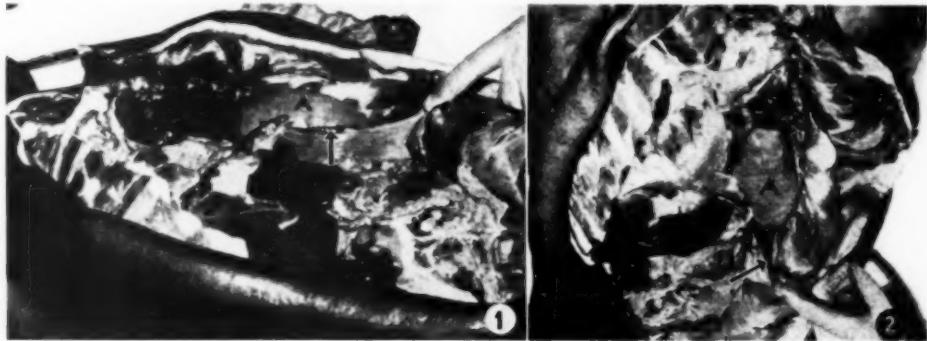
It is an interesting problem to attempt to explain the mechanism of this type of dilatation. It is often said that a paralysis of the stomach wall occurs, but this is inadequate because the dilatation is an active, not a passive phenomenon. The gas must be introduced under pressure, sufficient to balloon out the walls of the stomach. The stomach in this case was enormously dilated and thin walled. From the history of vomiting on admission to hospital, it seems possible that acute dilatation of the stomach occurred shortly after the stab and then resolved, recurring again on 23 December.

In cases of acute gastric dilatation it is possible that gas forms first, causing stretching of the stomach wall with resultant loss of gastric muscle tone. Accumulated secretion and more gas causes still further distension. Once the stomach has become dilated, the main factor in the pathogenesis of the condition is the failure of the gastric and the pancreatic juices to be reabsorbed. The amount of fluid that collects and the persistent vomiting indicates that the passive phenomenon is not satisfactory.

The possibility that these gases may arise from fermentation is definitely excluded, because of the sudden onset of the dilatation. The fluid in the stomach in this case

was brownish black and was neutral in reaction. It contained a lot of bile and blood but no hydrochloric acid.

Normally, a healthy stomach, when distended, empties itself by forcible expulsion of the gas. Thus it must be assumed that before dilatation can occur, there must be paralysis of the gastric musculature and possibly also constriction of the cardia.



The predisposing factors leading to dilatation in this case may have arisen from:

1. Toxic changes in the muscle.
2. Reflex action caused by trauma.
3. Spasm of the left crus of the diaphragm causing obstruction of the pyloric end of the stomach where it passed through the oesophageal opening.
4. Spasm of the left crus of the diaphragm causing a chronic obstruction of the pylorus and acute gastric dilatation superimposed on it by reflex action.
5. The abnormal position of the stomach and the stretched mesentery.

Another unusual fact about this case was that the dilatation was limited to the stomach only; usually it extends to the duodenum as well, and in 30% of cases the dilatation stops short at the point where the duodenum is crossed by the superior mesenteric vessels (Kraas, 1934). It is generally agreed that the stomach is affected first and that duodenal dilatation, when present, is a secondary phenomenon.

The suddenness of the death indicates that displacement of the mediastinum interfered with the cardiac action.

It is difficult to correlate the radiologist's report with the anatomical and pathological changes found at autopsy, but it is obvious that the thoracic position of the stomach had misled the radiologist.

I would like to thank Dr. H. S. Gear, Deputy Chief Health Officer, Union Department of Health, for his permission to publish this paper. I am also indebted to Prof. R. Turner, Dr. H. A. Shapiro and Dr. N. Teubes for their helpful advice and criticism.

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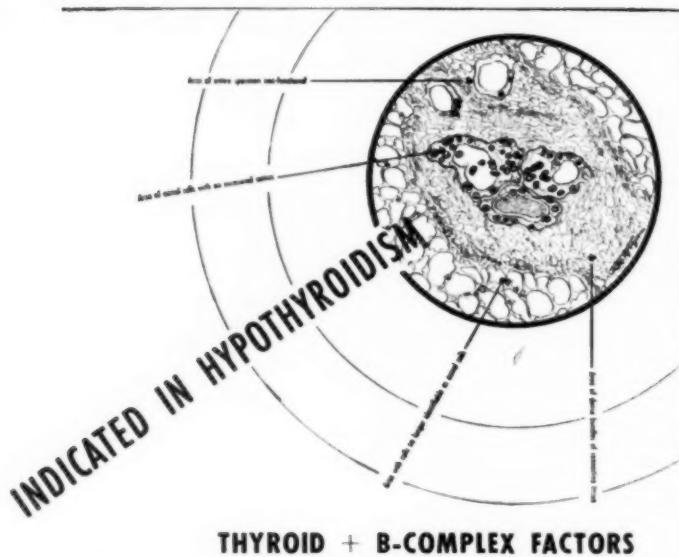
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VAN DIE REDAKSIE

VRYE HOSPITAALDIENSTE IN TRANSVAAL

Elders in hierdie uitgawe verskyn daar 'n berig oor hoe die Tussentydse Opskortingswet werk, wat opgestel is op versoek van die Administrateur met Uitvoerende Komitee, van die Transvalse Provinciale Administrasie.

Die memorandum kom net betyds, want ons het nou naby die einde gekom van die driejarige proefperiode, waarna die hele posisie weer in oënskou sal moet geneem word in die lig van praktiese ondervinding wat deur die publiek, die Provinciale Administrasie, sowel as die mediese beroep opgedoen is.

Daar is een saak wat baie duidelik uitkom en dit is nie die eerste keer dat ons daarop wys nie. Die welslae van enige grootkaalse toename in hospitaal- en mediese fasilitate, indien suks beskikbaar gestel moes word vir alle burgers van die Staat, kan nie met enige hoop op welslae onderneem word nie, tensy die grondvereistes, dié van 'n vermeerdering in bedruimte en verpleegpersoneel, allereers verseker word. Deur in gebreke te bly aan hierdie grondvereiste aandag te skenk, het dit die belastingbetaler ongetwyfeld duur gekos, terwyl in 'n streek soos Johannesburg dit uiteindelik 'n toestand veroorsaak het wat net die teenoorgestelde is van wat daar in die vooruitsig gestel is.

Die Mediese Vereniging het steeds 'n onderskeid gemaak tussen die koste verbonde aan versorging in 'n hospitaal en die gelde wat die mediese beroep vra. Laasgenoemde vorm op ver na die kleinste item van die uitgawes vir siekte; en die behoefte aan die daarstelling van 'n doeltreffende middeltoets, wat die sisteem na wens uitvoerbaar sal maak word ten volle bewys deur die ondervindinge geboekstaaf deur die rapport.

Waar daar nagenoeg voldoende bedruimte in die hospitale was (soos op die platteland) is die volle waarde daarvan ondervind deur beide die publiek en die geneesheer; maar, daar bet veral in die stedelike praktyk, 'n toestand van onregverdigheid ontwikkel. Baie stedelike belastingbetalers betaal tans vir dieselfde hospitaal- en mediese dienste as die plattelandse burgers, terwyl hulle self ontstoke bly van die fasilitate wat beskikbaar is vir hul plattelandse mededeburgers. Die pasient op die platteland kan dit beter bekostig om sy eie geneesheer te kies omdat daar vir hom 'n bed beskikbaar is in die hospitaal. In 'n stad egter, soos Johannesburg, mag 'n dergelike pasiënt gedwonge voel om hom te onderwerp aan behandeling deur die hospitaalstaf (al sou hy verkies om sy eie geneesheer te hê); maar om te betaal vir private mediese dienste sowel as vir hospitalisasie, dit kan hy nie.

Hierdie aspek van die toestand is belangrik, omdat be vind sal word dat dit die toekoms sal beïnvloed van mediese praktyk. Deur bemiddeling tydens die geskil in Transvaal, het die Mediese Vereniging dit benadruk en het die Provinciale Uitvoerende Komitee sy toestemming daar toe gegee, dat soveel mediese praktisys as moontlik in ver-

EDITORIAL

FREE HOSPITALIZATION IN THE TRANSVAAL

Elsewhere in this issue we publish an important memorandum on the working of the Interim Suspension Ordinance drawn up at the request of the Administrator-in-Executive, Transvaal Provincial Administration.

The memorandum is a most timely document, as we are now approaching the end of the 3-year trial period after which the whole position must be reviewed in the light of the practical experience gained by the public, the Provincial Administration, as well as the medical profession.

One point stands out extremely clearly and it is not a point which we make for the first time. The success of any major increase in hospital and medical facilities, if they are to be available to all the citizens of the State, cannot be undertaken with any hope of success unless the basic requirements of increased hospital bedage and nursing personnel have first of all been secured. Failure to pay attention to this principle has undoubtedly cost the tax payer very heavily and has in the end produced in an area such as Johannesburg a state of affairs very opposite of what was envisaged.

The Medical Association has constantly drawn a distinction between the cost of hospital care and the fees charged by the medical profession. The latter forms by far the smallest item in the cost of ill health; and the need to provide an effective means test, which will have the desirable effect of making the system work, is amply borne out by the experiences recorded in the memorandum.

Where hospital bedage has been more or less adequate (as in the *platteland*) the full benefits to the public and the practitioner alike have been realized; but, particularly in metropolitan practice, the situation which has arisen is inequitable. Many tax payers in urban areas are paying for hospital and medical services of rural citizens while they themselves are denied facilities available to their country cousins. The rural patient is better able to afford a doctor of his own choice because a hospital bed is available for him. In a city such as Johannesburg, the same type of patient may be forced to submit to treatment by the Hospital staff (although he would prefer to employ his own doctor) because he cannot pay for private medical treatment as well as hospitalization.

This is an important aspect of the situation, because it will also be found to affect the future of medical practice. At mediation in the Transvaal dispute it was stressed by the Medical Association and agreed to by the then Provincial Executive, that as many medical prac-

binding sal bly met die hospitale. Aan hierdie reël kan slegs met die grootste moeite gevold word, as geneeshere of voltyds of deeltyd moet werk. 'n Terugkeer tot die eresysteem sal verseker dat die groots moontlike aantal praktisyns met die hospitale verbonde sal bly.

Sekele *ad hoc* voorsorgmaatreels moet sonder vertraging getref word.

1. Die daarstelling van genoegsame hospitaalruimte moet bewerkstellig word, as die mees spoedeisende saak. Terwyl die nuwe hospitale in aanbou is, moet 'n genoegsame aantal beddens in private verpleeginrigtings gehuur of gekoop word.

2. Die toepassing van 'n doeltreffende middeldeetoe ter uitkennings van diegenes wat genoegsaam by magte is om mediese versorging privaat te kan bekostig.

3. Die ondervinding voortspruitende uit die huidige sisteem was so onbevredigend, dat die beroep 'n terugkeer tot die metode waarvolgens ere mediese dienste beskikbaar gestel was aan behoeftige siekes moet heroorweeg. Hierdie oorgelewerde en Hippokratiese verpligting om vir behoeftige siekes te sorg, sonder geld of vergoeding te eis (tuis wat nog altyd deur die beroep erken is), is vernietig geword op aandrang van die Provinciale Administrasie. Hierdie is 'n verdere rede waarom ons met groot omsigtigheid moet oorweeg, of ons, tot voordeel van die publiek, tot hierdie sisteem sal terugkeer.

tioners as possible should have contact with the hospitals. This principle obviously can only be implemented with the greatest difficulty when practitioners are either full-time or part-time. A return to the honorary system will ensure that the maximum number of practitioners possible will have contact with the hospitals.

Certain *ad hoc* provisions must be made without delay.

1. The construction of adequate hospital accommodation must be put in hand as a matter of extreme urgency. While the new hospitals are being built, a sufficiency of beds in private nursing homes needs to be hired or bought.

2. An adequate means must be found to distinguish those well able to pay private fees for medical care.

3. The experience of the present system of operation has been so unsatisfactory that the profession must seriously re-consider a return to the method whereby honorary medical services were made available for the indigent. This traditional and Hippocratic obligation to care for the sick poor, without fee or reward (which the profession has always recognized) was destroyed at the insistence of the Provincial Administration. This is another reason why we must consider with great care whether, in the public interest, we should not return to this system.

EPISTAXIS

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Epistaxis can be one of the most trying and difficult emergencies the medical practitioner may have the misfortune to deal with.

The generally accepted causes of epistaxis are divided into local and general.

It is not the purpose of this article to deal exhaustively with the more academic aspects of the pathology of epistaxis. It will suffice to summarize the causes as follows:

A. LOCAL CAUSES

- i. Trauma, including surgical treatment.
- ii. Rupture of poorly supported vessels (Associated with B.i below).
- iii. Foreign bodies.
- iv. New growths.
- v. Telangiectasia.
- vi. Diphtheria.

B. GENERAL CAUSES

- i. Hypertension.
 - (a) Arteriosclerosis.
 - (b) Puberty and adolescence (excitement and exertion).
 - (c) Relative, as in barotrauma.
- ii. Heart disease with high venous pressure.
- iii. Blood diseases—Leukaemia, etc.
- iv. Prodromal stages of infectious fevers.
- v. Severe haemorrhagic types of infection.

The differentiation and treatment of those serious diseases in which epistaxis is a symptom must be done in each case by the practitioner in attendance.

Epistaxis is not common in infancy or early childhood but its incidence increases rapidly at puberty, adolescence

and early adult life. It is unusual in adults and more common again with the onset of advancing years.

More than 90% of all cases show a bleeding point on the septum just inside the nostril known as Little's area. This area is sometimes known as Kiesselbach's area, but it was first described by the American surgeon James L. Little.

In this area the mucous membrane is very thin and it is profusely supplied by the vessels anastomosing from the sphenopalatine artery, the anterior ethmoidal artery and the superior coronary.

The illustration (Figs. 1 and 2) shows schematic drawings of the blood vessels of the septum and the lateral wall of the nose. It will readily be appreciated that the upper

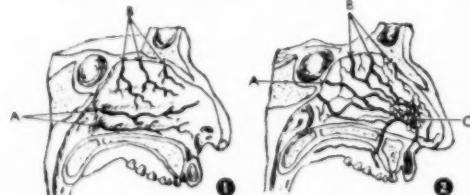


Fig. 1. Lateral Nasal Wall. (a) Sphenopalatine arteries. (b) Ethmoidal arteries.

Fig. 2. Septum. (a) Sphenopalatine arteries. (b) Ethmoidal arteries. (c) Little's area.

part of the lateral wall and the septum are supplied by the ethmoidal arteries, which are branches of the ophthalmic artery. The lower part of the lateral wall of the nose and the septum are supplied by the sphenopalatine artery, a branch of the internal maxillary.

The middle turbinate may be taken as guide. Bleeding from above is ethmoidal and from below is sphenopalatine. At first it may appear that this distinction is purely academic, but this is far from the truth. The ethmoidal arteries are derived from the circle of Willis and the internal carotid, while the sphenopalatine artery is from the internal maxillary and the external carotid. The anatomy serves to explain why in severe epistaxis, ligation of both external carotids has failed to arrest the bleeding in certain cases. The wrong arterial system has been occluded.

TREATMENT

Symptomatic. This treatment, in the majority of cases, will suffice.

Where the haemorrhage arises from Little's area, all that is usually necessary is to insert a piece of cotton-wool into the vestibule of the nose and instruct the patient to hold the nose firmly between the finger and thumb for 15 minutes by the clock. It is important to insist on 'by the clock'.

If one wishes to avoid any type of plugging, one cannot do better than heed the writings of Wilfred Trotter. In his collected papers he writes thus:

'There is probably no more ancient and deeply contrived function than the natural control of haemorrhage, and its capabilities are truly astonishing. They are, however, often underestimated, because they demand the exact fulfilment of certain conditions which are frequently with the best of intentions made impossible. These conditions are that the pressure within the bleeding vessel should be kept low and that the site of the bleeding point should be absolutely at rest. It is odd how difficult it is to get this simple principle understood, and the simple instructions that follow from it rigorously carried out. Conscientious nurse and anxious relative will conspire, the one to wash and the other to feed, in spite of categorical orders that nothing must be done or given, and exceptions to this rule will be taken for granted unless expressly forbidden.'

We are concerned here only with principles, and I shall but mention the one concrete example of severe epistaxis. Suppose you wish to make a serious attempt in such a case to avoid the recognized but odious alternative of plugging the nose, and to give natural rest a real chance, this is the procedure to follow. Prop the patient well up with a comfortable inclination to one side, arrange a large pad of wool for him to dribble into, put a dental prop between the teeth, *forbid him to breathe through the nose or swallow*, and give a substantial dose of morphia. Only by mouth breathing and a complete cessation of swallowing can the bleeding area be given the necessary and almost infallibly haemostatic rest.'

It is not suggested that this be the treatment for all cases but I can well imagine conditions, particularly in remote parts of the country, where it could be used to a considerable extent and avoid the discomfort both to the patient and doctor which will result from inadequate attempts to pack the nose under difficult conditions.

Plugging of the nose will stop all types of haemorrhage from the nose, at least temporarily. It is imperative that it be done properly if it is to be effective. The most essential point is adequately to anaesthetize the nose before any attempt is made to plug the cavity. A spray of 5% Cocaine containing a few drops of Adrenalin will be

effective, but it is simpler to soak small pledgets of cotton wool in the same solution and insert them gently into the nose. In 10 minutes the nose will be insensitive and, what is more important, the mucosa will have shrunk considerably and the bleeding will be reduced. In manipulations in the nose the light should be directed into the nose from just above the operator's right ear. Those who can use a head mirror or a head light will prefer them to other methods of illumination. Using a pair of angled dressing forceps and a narrow ribbon gauze (not greater than $\frac{1}{2}$ in.) the highest part of the nose is plugged first and then the posterior part and then forwards along the floor. Packing must be relatively firm.

Such a nasal pack must not be left in the nose for more than 24 hours, as infection rapidly increases. The smell of the plug at the time of removal will testify to this.

Plugging of the posterior nares by passing a soft rubber catheter through the nose into the mouth and drawing a mass of gauze into the nasopharynx is unnecessary if the plugging from the front has been adequate.

During the last 18 months I have been using Calgitex ribbon (E.N.T. grade) for the nasal packing described above and it has been very successful. The haemostatic effect is excellent and the softening of the alginate around the edges makes removal a comfortable procedure for the patient as compared with ordinary ribbon gauze. Calgitex is sterile and seems to resist infection. Plugs removed after several days are not unduly malodorous. The use of BIPP-impregnated gauze is recommended in the absence of Calgitex in cases where the packing must be left in for a considerable time. The writer has experience of a BIPP pack which remained in position for 14 days without any untoward effect. This, however, is only to be done in exceptional cases. Arrest of haemorrhage in those cases where the bleeding point is seen can be done very easily by use of the chromic acid bead. A heated wire is dipped into chromic acid crystals and the few that adhere are melted under a gentle heat until they form a bead at the end of the wire. The bleeding point is touched by the bead and immediate arrest of the haemorrhage results. A stick of silver nitrate can also often be used to good effect.

Curative. Permanent arrest of nasal bleeding needs consideration of the several factors concerned in its causation. The treatment of haemorrhage due to general disease is not truly within the scope of Ear, Nose and Throat work and will not be dealt with in detail. All such cases should be treated symptomatically, as has been set out above. While one hesitates to control the bleeding of a hypertensive, one must realize that long-continued bleeding will lead to a severe degree of anaemia and depletion of the serum protein. Discretion must be used in the management of such cases and in no circumstances should the haemorrhage be permitted to become prolonged. Haemorrhage due to ulceration of the septum will, in the majority of cases, stop spontaneously without special treatment. Sometimes, however, excessive fibrosis in the mucosa prevents satisfactory retraction of the vessels and bleeding is recurrent and troublesome. These cases should be treated by excision of the ulcer together with a localized submucous resection of the nasal septum.

Case Report. A European male aged 27 years was seen in 1947 with a history of repeated epistaxis for a long time.

The patient was a German prisoner-of-war for three years and he stated that his nose bled slightly over the whole period. He stated that a German Medical Officer had seen him frequently and the nose had been chemically cauterized on at least 50 occasions.

On examination there was a small ulcerated area on the left side of the septum, surrounded by a gross area of scarring which was dead white. At operation the scarred area, including the ulcer, was outlined by an incision and removed from the cartilage. A limited resection of the cartilage was next carried out and the two soft tissue flaps allowed to fall together. Healing was rapid and satisfactory and there has been no further bleeding.

Foreign bodies require removal and subsequently the nose rapidly becomes normal.

New growths are treated along the general principles laid down and need no special reference.

Diphtheria as a cause of blood-stained discharge from the nose is mentioned to remind practitioners of its occurrence.

From Figs. 1 and 2 it will be noted that there are three areas from which bleeding occurs:

- i. Little's area.
- ii. High anterior (ethmoidal).
- iii. Posterior (sphenoidal).

Little's area provides over 90% of the cases and the curative treatment is very easy. Local anaesthesia with Cocaine and Adrenaline pack coupled with a light intravenous barbiturate general anaesthetic is the medium of choice. The bleeding area is cauterized with a galvanocautery at a dull red heat. Bright red heat will certainly start fresh bleeding which may be troublesome. The practitioner is warned not to do extensive or deep cauterization because it will cause necrosis of the underlying cartilage and delay healing greatly. A perforation of the septum will often follow. The after-treatment consists of smearing the area twice daily with a little white Vaseline to reduce the crusting effect. The area is usually healed in 14 days.

Next in order of frequency is the high area—the ethmoidal area. This is supplied by the ethmoidal arteries. A common cause of persistent bleeding from this area is a blow on the head causing a localized fracture in the ethmoid region with damage to the vessels as they lie in their canals in the lateral masses of the ethmoid. Another cause which must be kept in mind is that of hereditary telangiectasis. Permanent arrest of ethmoidal haemorrhage will require ligation of the anterior and posterior ethmoidal arteries. They are approached through

a curved incision down to the bone over the inner canthus of the eye. The periosteum is elevated, the pulley of the superior oblique is detached and as the orbital contents are pushed laterally the vessels stand out very clearly as cords passing to the medial wall. A forceps is applied and the handle touched with an electrode carrying a coagulating current. The orbital contents are allowed to fall back into place and a few skin stitches complete the operation.

CASE REPORTS

i. L.B., a European male aged 13 years, was admitted following a fall about which no clear history could be obtained. Epistaxis was profuse and was controlled by plugging. Repeated epistaxis and transfusions for three weeks. Hb before operation, 26%. Operation on the ethmoidal arteries as outlined was performed together with a transfusion of two pints of blood. No further bleeding occurred and the patient left hospital in three weeks with a steadily rising Hb at 76%. Fit and well 1½ years after operation.

ii. X.Y., an elderly Asiatic male, was admitted with profuse epistaxis. Blood pressure, 135/90 mm. Hg. Bleeding was not satisfactorily controlled by plugging. Transfusions were given but the condition was not satisfactory and was deteriorating. Haemoglobin, 42%. Operation was undertaken for ligation of the anterior ethmoidal artery under intravenous barbiturate and local Procaine infiltration. No further bleeding was noted after operation and the patient left hospital fit and well with steadily rising Hb at 68%.

Posterior bleeding arises from the sphenoidal group of vessels and to arrest the bleeding permanently it is necessary to ligate the internal maxillary artery from which the vessels arise. The artery can be ligated just before it gives off the inferior orbital branch by a trans-antral approach. The vessel is to be found behind the posterior wall of the antrum, high up. The posterior bony wall is broken through to get to the vessel as it lies in the pterygo-maxillary fossa. This procedure is rarely required.

Ligation of the external carotid is not indicated for epistaxis.

SUMMARY

1. The causes of epistaxis are briefly surveyed.
2. The anatomy of the vessels of the nose is described.
3. Details of symptomatic treatment are given.
4. The value of submucous resection of the nasal septum in certain cases is indicated.
5. Details of permanent arrest are noted, including the operative details of ligation of the relevant vessels, should the need arise.
6. Illustrative cases are quoted.

LEUCOTOMY, COMA AND OTHER SHOCK TREATMENTS

REPORT OF THE EVIDENCE TENDERED ON BEHALF OF THE MEDICAL ASSOCIATION OF SOUTH AFRICA TO THE JUDICIAL COMMITTEE OF INQUIRY*

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In the *Government Gazette* of 1 December 1950 notice was given that the Minister of Health had appointed a Judicial Committee of Inquiry to consider the problems of leucotomy and the various coma and other shock treatments.

I have been asked by Federal Council to present a

* Published by permission of the Judicial Committee of Inquiry.—Editor.

Memorandum on behalf of the Medical Association concerning the terms of reference of the Inquiry. I would like to state that the Inquiry instigated by the Minister with its particular terms of reference is both timely and welcome.

The legal position relating to psycho-surgery is in need of clarification, and the medical profession is more in need of protection than the public. With regard to the

terms of reference, it is obvious that the Minister has been poorly advised in respect of the surgical aspect of the problem. Here it would appear that the Inquiry is concerned only with leucotomy. Leucotomy is a relatively minor surgical procedure. Does the Minister intend that we are not to deal with other neuro-surgical procedures directed towards the same group of pathologies? I refer, of course, to trans-orbital lobotomy, gyrectomy, lobectomy, topectomy, cingulotomy, cingulectomy, parietal and temporal undercutting procedures, thalamotomy and hemispherectomy, the latter being the operation which has been evolved in South Africa for the treatment of certain mentally defective children.

To deal with leucotomy alone is only to touch the fringes of this vast problem. Even by the term leucotomy no strictly defined operative procedure is envisaged. Many people consider that leucotomy means the lower quadrant operation recommended by Freeman and Watts. Let me say at once that there is no standard procedure and that each case calls for separate consideration, that unilateral leucotomy has its place, that the procedure in some cases should be confined to the upper quadrants, that the plane of incision in a chronic deteriorated aggressive schizophrenic would be entirely different from that employed in an early paranoid who had failed to respond to more conservative measures. Again it would indeed be an offence to carry out a lower quadrant operation in a ruminative obsessive, or chronic anxiety state where a superior quadrant procedure or a topectomy might offer the same relief without the risk of inducing unwanted personality changes. I would stress that to each case must be applied the appropriate surgical approach, bearing in mind that where more radical procedures are contemplated we must apply strictly the 'principle of dual effect'.

It would appear reasonable, therefore, to suggest that the practitioner or surgeon who is not equipped by training and specialized knowledge to carry out all of the above procedures as occasion arises, has no right to be undertaking the technically more simple, but psychologically more dangerous, lower quadrant leucotomy. In this matter the public must be protected, viz. that the choice of operation should not be confined to a simple procedure because the surgeon's training will not allow him to employ more elective procedures. The surgeon unversed in the mapping out of the motor cortex by electrical stimulation, with the recording of electro-corticograms, has no right to be allowed to make an assault on the human brain. The specialist neuro-surgeon is equipped by training to undertake such operations but I insist that any medical practitioner may, by special study and experience, become competent to carry out such procedures although he may not be registered as a specialist neuro-surgeon.

The decision to offer a particular therapeutic approach, e.g. leucotomy, shock, coma, etc., must, in the field of psychiatry as in any other branch of medicine, be left to the judgment of the particular practitioner or specialist under whose care the patient has placed himself. The patient, or his relatives, always has the right of a further opinion, and when in doubt the doctor concerned can also ask for assistance.

I would strongly urge that to enforce additional opinion by regulation would only add confusion because there is,

as yet, by no means absolute agreement between authorities about the type of operation or the exact nature of the treatment to be carried out in each case. As in many other medical problems, the matter is open to debate, and the final decision must be, and always will be, coloured by the individual viewpoint and method of approach adopted by the particular operator or therapist. For example, a patient suffering from a severe obsessional neurosis may consult the following authorities and receive the following advice regarding operation:

Dr. Freeman: transorbital lobotomy.

Dr. Watts: prefrontal leucotomy (lower quadrant).

Sir Hugh Cairns: cingulectomy.

Dr. Peyton: bilateral frontal lobectomy.

In the Department of Neuro-Surgery at the Johannesburg Hospital we would probably advise a topectomy or upper quadrant leucotomy.

CONSENT

The matter of consent is complicated because the patient may fall into one of several categories:—

(a) He may be a minor.

(b) He may not be suffering from any mental disturbance such as neurosis or psychosis (e.g. in the case of a pure pain problem or an anxious hypertensive).

(c) The patient may not be certifiable but may be suffering from a severe ruminative or obsessional neurosis or a chronic anxiety state.

(d) The patient may be certifiable but not certified and his mental condition may be such that he is unable to comprehend the full implication of the procedure advised.

(e) The patient may be certified under the Mental Disorders Act and, having failed to respond to other forms of treatment, operation may be advised in the hopes of restoring him to a more normal existence within the institution, or within his home circle, or even in the hopes of effecting a complete cure for his illness.

(f) In the case of the aggressive, unmanageable, homicidal institutionalized patient, operation may be advised in the hopes of effecting no more than an improvement in his adjustment to institutional life and facilitate his care and nursing.

(g) The minor, or certified patient, may have no near relative to act on his behalf.

(h) In the minor, or certified patient, the relatives or guardian may refuse to give consent on moral or religious grounds.

The term 'consent' does at this stage need definition and should indicate that the position is fully understood by both the patient and the physician or surgeon. It should also, in the manner of its being obtained, afford the necessary protection to the patient, in the case of the non-certifiable patient, by allowing him the opportunity of exercising his own free will and judgment, and of seeking further advice in coming to a decision.

It is also important that, once the patient has given consent, it shall be assumed that he has satisfied himself regarding all the implications of the operation or treatment and that the surgeon or physician cannot be held responsible for the appearance of accidental or undesirable 'side-effects' of the operation or treatment, again with due regard to the patient's rights in respect of malpraxis or neglect; furthermore, that in the case of psycho-surgical procedures, in instances where the patient has been certified or is certifiable, 'consent' will imply that consultation concerning the procedure should have been held between the Superintendent of the Hospital or Institution, or practitioner in charge of the case, and a neuro-surgeon, and that his relations or legal custodian shall have been advised and have signified their approval, *vide infra*; that,

in the case of coma and shock treatments, consultation shall not be implied or called for except where the patient or relatives or legal guardian so desires.

I submit that the above definition satisfies the requirements in respect of patients who are deemed to be in full possession of their 'reason', and would afford adequate protection for patients falling under categories (b) or (c). Modifications would, of course, have to be made in respect of the remaining categories, viz. (a), (d), (e), (f), (g) and (h) where, as I have indicated, the relatives or legal guardian would have to act on behalf of the patient and give the necessary consent.

(a) The parents or legal guardian should have the right to act for the patient. This should apply in both the certified and the uncertified patient.

(d) This type of patient should be dealt with under the 1944 Amendment Act (No. 7) which permits the imposing of treatment, etc., and the relatives or legal guardian be empowered to act on his behalf.

(e) and (f) The relatives or legal guardian should again be empowered to act on the patient's behalf.

(g) The legal custodian or, in the case of the patient certified under the Act, the Superintendent of the Hospital or Institution should be empowered to ask for a legal curator to be appointed by the Supreme Court who shall act on the patient's behalf.

(h) The category (h) introduces the most difficult aspect of this entire problem, but from time to time cases will arise where operation or other treatment is indicated as offering the only chance of improvement or cure and may be refused by the patient or relatives because of prejudice, ignorance or on moral or religious grounds. It would seem right to suggest that an extension of the principles of the Act as revised by Act No. 7 of 1944 should be applied. Here again the Superintendent of the Hospital should be empowered to ask for a legal curator, to be appointed by the Supreme Court, who could give 'consent' on behalf of the patient, after due consideration of the medical report.

Nota Bene. Throughout the above recommendation the word 'relatives' has been used without any clear definition of who shall constitute the relatives, or the order of authority of various relatives. Consideration of this factor has been included in the terms of reference issued by the Minister—this again is timely and is a matter which needs clarification and legal definition, with special reference to the term 'consent' in respect of medical and surgical treatments.

I would like to make it clear that, as a specialist neurosurgeon, it is *my opinion* that psycho-surgical procedures should be carried out by neuro-surgical specialists. To endeavour to legislate for and impose such a principle would be highly undesirable and would be entirely contrary to important and long-established principles governing the whole practice of medicine. To place the various forms of psychotherapy, such as shock, coma and psycho-surgery, in a restricted category and under special custodianship would be highly illogical, unless one made the same restrictions in respect of all medical and surgical treatments, which in turn would be highly intolerable.

Let us say at once that the decision to remove a woman's uterus, or amputate a limb, or to give a morphine injection to a patient in pain, carries with it psychological implica-

tions quite as far-reaching as any of the psychotherapies included in the terms of reference of the Judicial Committee. Yet no one would suggest that a Judicial Curator and a Consultative Panel should be called into operation before a medical practitioner can prescribe a 1-grain of morphine for a patient.

In my personal capacity as a neuro-surgeon I would, however, say without hesitation that a patient's best interests would be served in respect of psycho-surgical procedures, if the operation is carried out by a neuro-surgeon in consultation with a psychiatrist, in the same way that I consider that for a gastrectomy, the patient's best interests would be served if the operation were performed by a specialist surgeon in consultation with a specialist physician. We must, however, remember that many medical practitioners whose names are not on the Specialist Register and who do wish to have their names on such a register, are, by virtue of training and/or experience, quite as competent to make decisions, to carry out treatment, or perform surgical operations as any registered specialists. To endeavour to define which practitioners should be allowed to make decisions, apply therapies, or perform operations, would be an imposing, controversial and impossible task.

As a profession we are anxious to see the interests of the public, our patients, safeguarded and I suggest that there is already ample machinery in law for this. We are also aware that medical practitioners may, on occasions, carry out procedures for which they have not adequate training or experience: I do not here refer to the case of dire emergency, where no other help is available.

Is there any other way in which the public can be assisted in these matters, and particularly in respect of the procedures referred to in the terms of reference, of the present Judicial Committee of Inquiry? I would say: Yes! By education of the public itself. In this matter we have an excellent example in the report on *Prefrontal Leucotomy* by the Board of Control (England and Wales, 1947). Such a report is available to the public. It defines in simple language the reasons for leucotomy, what may be expected from the operation, statistics concerning 1,000 cases operated on, and certain conclusions are drawn as follows:—

'Pre-frontal leucotomy is usually a simple operation for the patient, if not always easy for the surgeon. Complications are infrequent and the death rate cannot be said to be high when the seriousness of established mental disorder is taken into account.'

'Remarkable improvement in behaviour follows in a large percentage of cases who have had severe symptoms with poor prognosis and have failed to respond to other methods of treatment. Many are discharged from hospital, and others, while unfit to leave, become much more placid and easier to nurse.'

'The question as to whether or not these results are achieved at the cost of the loss of some finer mental qualities is not yet answered and further study is needed on this most important point.'

'We are of the opinion that the operation should be carried out only after careful consideration of each individual case by experienced psychiatrists.'

To the last sentence I should like to see the words 'or neuro-surgeon' added.

It seems logical that information and advice presented in such a manner would afford far greater protection to the public than any attempt to define who shall advise.

treat or operate. I would like to suggest that it should be the duty of the Medical Council to issue from time to time reports which will be available to the public, on the lines of the Board of Control report referred to. Such reports should be objective, and based on a statistical survey, and not on hearsay or individual opinion, but should be compounded by experts and based on a statistical study. I am by no means suggesting that such publications should be confined to the spheres of psychiatry and neurosurgery. It may well be that the public will in time derive considerable help and be afforded considerable protection concerning the place of Cortisone in the treatment of rheumatoid conditions. It would be unwise to attempt to do so at present for, as I have stated, the reports should be objective and based on a statistical survey.

In the foregoing I have dealt with all matters falling within the terms of reference of the Judicial Committee except those under the headings (1), (2) and (3) concerning the nature of the operation, shock or coma, and the immediate and subsequent results. A very considerable and readily available literature has come into being concerning these matters.

1a. NATURE OF THE OPERATION OR OPERATIONS

No set procedure has yet been evolved which can be claimed as superior to others, nor has it been established with any certainty why and how any of the procedures produce the beneficial effects which have been claimed.

Since the first reports by Egas Moniz of Lisbon in 1936, new impetus has been given to the surgery of the psychoses. Moniz (1936) tried and suggested several methods of destroying the white matter of the frontal lobes, and reported benefit in certain of the psychoses. His original report concerned 20 cases and he reported seven recoveries and seven other cases in which improvement occurred, especially as regards agitation, whilst six cases showed no improvement. The best results occurred in the five agitated depressives, four of whom recovered and the fifth improved. At about the same time (1936) Ody of Geneva reported improvement in a dementia praecox after a unilateral frontal lobectomy. During 1937 and 1938 the Italians took up the work and reported various procedures: some injected formalin into the frontal lobes, some injected human blood and others used the leucotomy of Moniz. It was at this time that Fiamberti employed a transorbital approach, which has recently been so enthusiastically resurrected by Freeman.

As early as October 1939 Rizatti and Borjavello had already done 200 leucotomies in chronic psychotics and reported 15% recoveries and 31% improvement, which was, to say the least of it, encouraging. From other European capitals conflicting reports started to filter through on isolated or small series of cases. The Americans were not left far behind and encouraging reports started to come in from several centres.

In 1942 Freeman and Watts published their monograph entitled *Psycho-Surgery* based on a study of 80 patients on whom they had carried out the operation of prefrontal lobotomy. The presentation of the work was detailed and dealt with anatomical and physiological factors, defined an exact operative procedure, analysed pre- and post-operative mental and psychological states, and finally detailed the indications and results in 80 patients. The book unfor-

tunately gave to the whole subject the authority of a factual text and tended to lift it out of the realm of an experimental procedure, to which it did, and still does, belong. The result was that many practitioners started to carry out the operation as defined by Freeman and Watts in their book. It is necessary to point out that the particular operation has by no means been accepted as a standard procedure by other authorities, and even the authors of the monograph alluded to are now in opposing camps.

Since 1942 the problem has been approached from many different angles by different workers in the field. In 1946 Heath and Pool introduced the procedure known as a tepectomy, which aims at the bilateral removal of Brodmann's areas 9 and 10, i.e. subtotal bilateral ablation of the frontal cortex. Pool, in a later report in the *Lancet* (1949), says that the indications for this operation are essentially the same as for prefrontal lobotomy, but admits a higher incidence of post-operative epilepsy, 14% as compared with 10-12% after lobotomy. On the positive side he claims a lower mortality, no deaths in 125 cases, less risk of serious post-operative personality changes, and states that 44% of all cases have maintained significant improvement for one to three years after operation. Cingulectomy and cingulotomy have been advocated by some authorities, and Sir Hugh Cairns (personal communication) thinks that these procedures have a place in those patients not showing an overt psychosis.

In November 1948 Peyton reported a new operation for mental disorders which consisted of a bilateral frontal lobectomy, and he reported on 53 such cases. Careful analysis of his cases indicates a rather high percentage of undesirable post-operative personality changes. In 1948 the first *International Congress on Psychosurgery* was held in Lisbon, where the results concerning 8,000 psychosurgical procedures were reported.

Because of certain relatively constant anatomical findings in successful cases which later died of other causes (I refer to the degeneration of the dorsomedial thalamic nucleus after leucotomy), many workers in the field have come to regard the essential feature of the operation as being the severance of the fibre tracts between the dorsomedial thalamic nucleus and the frontal lobes. From this naturally arose the conception of a less extensive over-all procedure designed just to disrupt this pathway, and so the procedure known as thalamotomy was devised by Spiegel, Wycis *et al.* Here again good results have been claimed.

In 1949 Bailey reported beneficial results in psychotic cases after removal of a small portion of the anterior cingular gyrus on each side. Cairns has done further work on this approach to the problem.

Other workers have confined their attention to undercutting procedures designed to isolate various areas of the frontal lobes. The temporal and parietal lobes have also been attacked but the results so far have not been encouraging.

It will be seen that in the past few years a number of different operations have been devised to deal with the patient suffering with chronic mental disorder, but the field is enlarging and to-day encouraging reports are coming in cases of chronic alcoholism; the habitual criminal has also received attention, as well as other psychopathic

personality states. The work is largely experimental and it will be a long time before firm criteria are laid down.

In the relief of certain types of intractable pain, such as the pain of malignant disease, or in the thalamic syndrome such as may occur after a cerebral vascular accident, leucotomy has already established itself as a worth-while procedure, where all else has failed.

Although the indications for psycho-surgery are by no means clearly defined, nor can elective procedures be laid down for any particular sub-group of mental disorder, certain important facts are emerging in respect of these matters. At the present time we accept that a fair trial of more conservative measures is a *sine qua non* for operation. We also feel that in the case of the chronic schizophrenic, or any of its sub-divisions, more radical undercutting procedures, with consequent other risks in respect of personality, etc., are more likely to be of benefit. In obsessional anxiety states and pain problems more elective procedures may be carried out without the risk of producing so much in the way of undesirable after-effects.

It is often desirable to carry out the procedure in stages, by trying first the operations which destroy less brain tissue, before proceeding to a full leucotomy. Alterations in the plane of the incision, in accordance with variation in the clinical picture, is another method employed by neuro-surgeons in order to adapt the procedure to variations in the clinical pattern.

1b. NATURE OF THE SHOCK OR COMA

New physical forms of therapy employed in psychiatric illnesses have brought about a complete change in outlook in the treatment and prognosis of these illnesses. In the years 1933 and 1936 electro-convulsive therapy and insulin coma therapy were introduced, and their success has led to their general adoption in the alleviation of mental illness. The duration of many forms of mental illness is shortened and the patients appear to make more complete remissions than in the past. The agitated melantholias, symptoms in depressions, obsessional illnesses, acute anxiety states and schizophrenias can often be treated adequately by these forms of therapy.

Of the actual mode of action of the various therapies, nothing definite is known. They were discovered in the course of other studies, or on a hypothetical basis and to quote from the book *Shock Treatments* by Kalinowsky and Hoch (1946) the present position may be summed up:

'The expectation that shock treatment will throw some light on the etiology of the major mental disorders has not yet been fulfilled. Broadly speaking, it can only be stated that shock treatment is an unspecific form of treatment acting as a special form of sedation and stimulation on certain types of abnormal activity. A great deal of research is needed, however, to explain how this sedation and stimulation are accomplished. At present we can only say that we are treating empirically disorders whose etiology is unknown with shock treatments whose action is also shrouded in mystery.'

Thus we have effective treatments in psychiatry whose mode of action is empirical. This state of affairs is analogous to the situation of any branch of medicine whose therapies are still in a state of evolution.

i. ELECTRO-CONVULSIVE THERAPY

In 1798 Weckhardt recommended the giving of camphor to the point of producing vertigo and epileptic fits in mental illness. Von Medina in 1933 revived this treatment

by recommending the intramuscular injection of a 25% solution of camphor in oil to schizophrenia patients. Camphor was replaced by more efficient drugs such as Cardiazol, Triozol and Purotain. In 1937 Cerletti and Bini were able to produce therapeutic fits by passing an electric current through two electrodes placed on the forehead. This treatment is safe and convenient.

Technique. Numerous machines have been introduced for producing such therapeutic fits. The underlying principle remains the same in all of these, although there is a tendency at present to complicate apparatus with a view to varying the parameters (e.g. wave forms, duration, pulse, voltage and current) of the applied stimulus. Whether the introduction of such variables will be reflected in improved results is still a matter for speculation.

To prevent the occurrence of fractures during the tonic-clonic phase of the fit, various muscle relaxants, such as curare, are used by some therapists. The curare is normally given together with pentothal sodium 0.3 gm. just before the shock is induced. Appropriate antidotes, such as prostigmine, are available in case of emergency. Electro-convulsive therapy is normally given 2-3 times per week on different days, but the acute case, such as a bad suicidal risk, may be given daily treatment for the first few days.

Some authorities urge a more aggressive attitude, with closer spacing of shocks, even two per day. Usually a course of treatment varies from 8-12 shocks, but 20-30 treatments may be given.

Indications. These are:—

(a) *Schizophrenia*. Especially in the catatonic types or in cases where much affective disorder such as tension or depression is present. After a few treatments the patients are often more co-operative, and insulin therapy should, if possible, follow on convulsive therapy.

(b) *Involutorial Depression*. This form of treatment is the most effective known for this illness: figures of from 70-80% recoveries are still constantly being reported.

(c) *Manic-Depressive Syndromes*. The treatment is very effective in cases that have not lasted an undue length of time, and both mania or depression will respond.

(d) *Reactive Depression*. Where the patient's circumstances cannot be approached psychotherapeutically, some treatments may enable the necessary co-operation to be obtained where without it the patient will remain silent and listless.

Where an obsessional state is accompanied by depression, which so commonly happens, the treatment will lift the depression and make a psychotherapeutic attack on the obsessions possible, although these states do not do well on the whole. Electro-convulsive therapy is rarely beneficial to anxiety states or hysterics.

ii. ELECTRO-NARCOSIS

In recent years a modification of electro-convulsive therapy has been introduced by Tietz (1949) and is known as electro-narcosis. Coma is induced by the continuous passage of an electric current through the brain. It is usual to begin with a current of 175 milliamperes which produces a tonic contraction. The current is dropped after 30 seconds to 70 milliamperes until respiration re-commences. When breathing is satisfactory again, the



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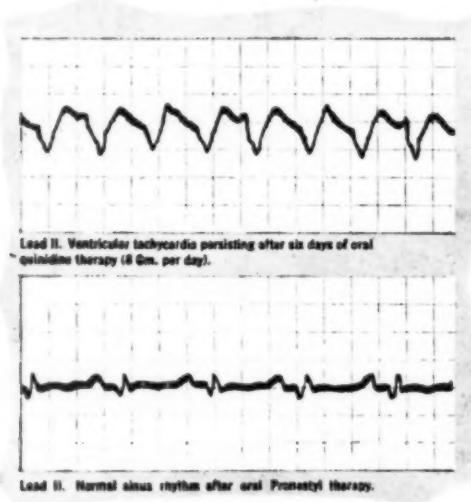
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current is increased until slight spasticity appears, i.e. to about 120-130 milliamperes, and is held at this strength for 7½ minutes. Pentothal 0.3 gm. is given intravenously beforehand to alleviate anxiety. Electro-narcosis may be given two to three times per week, a course consisting of 20-30 comas in all. Less current is employed than in the case of electro-convulsive therapy. This form of treatment has been used in cases of schizophrenia, especially the paranoid variety.

iii. INSULIN THERAPY

Sakel in 1933 first used insulin hypoglycaemia to counter the symptoms of withdrawal in the treatment of morphine addiction. The treatment was only effective when clinical symptoms of hypoglycaemia appeared. He tried to use this in schizophrenia subsequently at the Vienna Clinic. Once tried, its results were so impressive that it was soon given a trial in most civilized countries throughout the world. Nearly all reports were favourable and continue to be so up to the present time.

(a) *High-Dosage Insulin Therapy.* This treatment is used for schizophrenia. It is given on six days per week, and the seventh day the patient rests. A minimum of 20 comas is given but sometimes up to 60 or 80 comas may have to be given. If no improvement results after 40 comas it is doubtful whether any success can be expected.

Technique. Skill is required in judging how much insulin must be given to induce coma. If the dosage is too high, danger stages may occur soon after the injection. If too low, coma may not be induced. Usually it is induced when 100-250 units are given. It may be necessary to go up to 1,000 units before induction of coma.

Treatment is commenced with a dose of 10 units given intramuscularly and then increased by 20 units each morning until coma supervenes. The injection is given usually at 7 a.m. The first coma should not last for more than 10-15 minutes and should supervene three hours after the injection. Coma is terminated either by intravenous injection of 50-100 c.c. of 50% glucose intravenously or by feeding 600 c.c. of 50% glucose through a nasal tube. Consciousness should be regained 20 minutes after tube feeding, or five minutes after the intravenous injection. In either case the patients are given glucose and a fruit drink after awaking, together with a full breakfast. Adequate meals must be taken during the day and constant supervision by competent nurses must be available for the full 24 hours in case of delayed reactions. Facilities for the treatment of prolonged coma or irreversible coma and shock must be available. These include oxygen, adrenaline, coramine, glucose-saline infusions, blood transfusions and all the necessary adjuncts for the treatment of shock.

The safety of the patient depends above all on skilled nursing attention. This form of treatment is not given in cases of cardiac, renal or hepatic disease, diabetes mellitus or pulmonary disease. The utmost attention must be paid to the patient's physical welfare.

(b) *Subcoma Insulin Therapy.* This therapy is very useful for those patients whose physical condition has deteriorated as a result of their mental state. It is thus beneficial in anxiety states, in depressions, in post-concussion states and in alcoholics. The aim of treatment is to induce a daily state of hypoglycaemia

severe enough for sweating and drowsiness to develop. It is given on six days in the week and its efficiency is gauged by the gain in weight and general physical well-being of the patient.

The treatment is handled in a similar way to that of high dosage therapy except that the dosage given is never above 100 units, and coma must not supervene. Interruption is affected by giving the patient glucose to drink.

(c) *Combination of Electro-Convulsive Therapy with Insulin Therapy.* This form of therapy is claimed to be of great benefit in cases of schizophrenia. The remission is said to be better and more enduring than when insulin is given alone.

Technique. The treatment may be given in the course of high-dosage insulin. The patient is given an electrical convulsion before coma supervenes, i.e. while he is still drowsy. Immediately after the shock, interruption is effected, either nasally or by the intravenous method. Glucose is the method of interruption. The electric shock may be given twice or three times per week in the course of the insulin coma therapy. Alternately, on the day that electro-convulsive therapy is given, the patient does not have his insulin injection and the electro-convulsion therapy is administered in the usual way.

2. CONCERNING THE IMMEDIATE RESULTS AND DANGERS TO THE PATIENT, BOTH MENTAL AND PHYSICAL

(a) AFTER OPERATION

i. If a general anaesthetic is employed, as it must be in some agitated patients, the risks inherent in the administration of an anaesthetic are present but are not relevant to the present inquiry.

ii. Immediate or late post-operative cerebral haemorrhage is a danger.

iii. Post-operative complications, such as local infections, pneumonia, etc., must all be accepted as in any other surgical procedure.

Death attributed to the operation as outlined under (i), (ii) and (iii) above was shown to be 3% in the Board of Control report. Peyton reports no deaths after 32 bilateral lobectomies. In the Neuro-surgical Department at the Johannesburg Hospital our mortality rate has been 1.5% for leucotomies, and somewhere between 1.5% and 4% is the generally accepted figure.

During the immediate post-operative period of one to three weeks, the patient may show little or no disturbance, although most are incontinent of urine for a time. Some patients may be apathetic and dull and will need to be roused and have to be fed. Very rarely (0.1%) this state of affairs will persist and the patient will gradually waste away and die.

(b) AFTER SHOCK OR COMA

HARMFUL RESULTS

1. ELECTRO-CONVULSIVE THERAPY

i. *Fractures* may occur, especially of the dorsal vertebrae. These are usually unnoticed by the patient and produce no clinical symptoms of any severity. They are usually discovered on X-ray. Fractures of the shoulder, pelvis or scapula are rarer.

ii. *Immediate death* is very rare indeed. It occurs in 1:10,000 cases, i.e. 0.01%. It then results through acute cardiac decompensation, rarely through diffuse petechial haemorrhages. Treatment in cases of cardiac disease must be based on very careful consideration of the patient's mental illness and his cardiac condition. The advice of a cardiologist is always sought beforehand. In mild degrees of arteriosclerosis or hypertension treatment is not withheld provided the heart is still sound. Kaldek, McLaughlin, Guira and Wassering (1948) at the Boston State Hospital, in a follow-up series of 628 patients treated 50 cases who had signs of cardiovascular disease such as enlargement of the heart, arteriosclerosis, rheumatic disease and hypertension. No ill-effects resulted.

iii. *Effect on mental efficiency.* Huston and Strother (1948) studied the effects of this therapy on 75 cases who had received courses of electro-convulsive therapy. The age span varied from 15-70 years; the average number of shocks was 2-3 per week. They concluded that electric shock treatment produces no significant impairment of mental efficiency after a six months' interval.

iv. *Relaxants* such as Pentothal, Curare, Decamethonium iodide (C_{10}), and Flanodil carry their own complications. These are mainly respiratory failure and acute cardiac failure. They must be used with the utmost care and the necessary antidotes must always be available.

BENEFITS

There is no doubt that this therapy is of great benefit to a large number of patients. Best results occur in the involutional depressions. The stay in hospital is shortened and the incidence of suicide is far lower than in the untreated cases. In fact, this therapy is a life-saving procedure in cases of severe depression with suicidal tendencies. Better results occur when treatment is carried out within one year of the onset of illness. P. A. Martin (1950) reports parole rates of the following after electro-convulsive therapy:—

Schizophrenia	59%
Manic depression	84%
Involitional melancholia	53%

Social service follow-ups indicating long-range rehabilitation rates were 80% of the parole rates.

2. ELECTRO-NARCOSIS

HARMFUL RESULTS

These are similar to the harmful results described for electro-convulsive therapy. No long-term follow-ups have yet been reported in the literature.

BENEFITS

As mentioned above, this therapy is, if anything, not superior to electro-convulsive therapy or to insulin coma for either depressions or schizophrenias. However, good results are reported for paranoid schizophrenia where insulin has failed.

3. HIGH DOSAGE INSULIN

HARMFUL RESULTS

i. *Irreversible Coma.* This occurs in about 0.5% cases. In many cases of irreversible coma which recover, the effect of the prolonged coma is beneficial to the mental

illness. After a prolonged coma a far better remission may be obtained. The mortality rate after prolonged coma is 11%. In cases where death does not supervene, effects occur which may be permanent. These include dementia, choreo-athetosis, rigidity.

ii. *Pneumonia.* This rarely supervenes and can be avoided by giving atropine gr. 1/50 to patients at the time when coma supervenes.

iii. *Cardiac Failure.* This is indeed a very rare complication.

iv. *Epileptic Fits.* Where these occur in the first hour after the injection of insulin they are harmless. Where they occur after the onset of coma they are indicative of severe hypoglycaemia, and the coma must be terminated immediately for that day. Fits can be avoided by giving the patient Epanutin 2-3 times per day, or Phenobarbitone two hours before the treatment.

v. In successfully treated cases *no intellectual deterioration* occurs. In all cases treated the treatment does not aggravate the illness.

BENEFITS

These outweigh the harmful effects considerably. The long-term prognosis is definitely better for the insulin-treated cases provided the illness is of shorter duration than two years. Patients with catatonic or paranoid features react better to insulin than do hebephrenics or simple schizophrenias. The remission rate for treated cases is far higher than for untreated cases. Eringa (1950) reports that 70% of schizophrenias, ill for less than one year before the start of treatment, had remissions after insulin coma therapy, and of these 30% relapsed in the course of 5-10 years after treatment. Kalinowsky (1950) reports that schizophrenias, excluding hebephrenics, ill for less than one year, respond to insulin coma therapy with 60-70% good remissions and a relapse rate of only 10%. It is estimated that for schizophrenias, insulin coma therapy is the method of choice, preferably supplemented with electro-convulsive therapy.

4. SUBCOMA INSULIN THERAPY

No real harmful effects occur. The treatment undoubtedly increases the patient's physical well-being which in turn reacts beneficially on his mental state.

5. COMBINED ELECTRO-CONVULSIVE THERAPY AND COMA THERAPY

The risks entailed are no more than those described for each alone. The combined effect often succeeds in cases of schizophrenia when either alone has proved ineffective.

3. ON THE SUBSEQUENT RESULTS AND DANGERS TO THE PATIENT, BOTH MENTAL AND PHYSICAL

AFTER OPERATION

I. HARMFUL RESULTS AND WORSENING OF THE MENTAL CONDITION

i. In one or two isolated instances a hemiplegia or aphasia has been reported. Such events are extremely rare and did not appear in the 1,000 cases reported by the Board of Control.

ii. Epileptic fits appearing after the operation and therefore attributable to it were reported (3.3%) in the

Board of Control report; 10% has been accepted in other quarters as being nearer the correct figure. Obviously the particular technique employed has some bearing on post-operative epilepsy. Pool reports 14% of post-operative epilepsy from the Neurological Institute of New York in 52 cases of topectomy. From the Department of Neuro-Surgery at the Johannesburg Hospital there have been two cases of post-operative epilepsy, i.e. 3%.

iii. The Board of Control Report (1947) shows that 11 of the 1,000 (1.1%) patients who had a prefrontal leucotomy operation were worse after the operation, i.e. their mental state deteriorated further. Careful analysis of the pre-operative diagnosis in these cases indicates that this worsening of mental content is not related to the pre-operative state and it may therefore occur in the schizophrenic, the organic dementia, the paranoid, as well as in the anxiety neurosis, and may also occur in the pure pain problem. This means that if 100 normal healthy persons were subjected to a pre-frontal leucotomy, one, e.g. 1%, would run the risk of becoming mentally deranged in the loose sense of the term, that is, he could be regarded as being *non compos mentis*. This is a very different picture from that given by the Medical Council, where it was stated, according to the press reports, that 'once a man had undergone such an operation it was doubtful whether he would ever again be regarded as being *compos mentis*'.

BENEFICIAL RESULTS

Here again the report of the Board of Control affords the best evidence yet presented in respect of a large number of cases. It is to be remembered, however, that all the patients operated on were chronic, institutionalized, and were refractory to more conservative measures. There is every reason to state that if operations were carried out in 1,000 cases who had not been allowed to become chronic, that is, ill for more than two years, the results would be much better than represented in the report. At any rate, of 1,000 cases operated on for all groups of mental disorder, of which 50% were schizophrenics and 25% were manic depressives:

Thirty-five per cent were discharged from hospital, and of these 242 could once again be listed as citizens—this alone would surely justify the procedure and amply compensate for the relatively small risks incurred.

Thirty-two per cent were listed as improved in their hospital adjustment.

The best results, however, are obtained in those patients who are operated on within two years of the onset of the illness and the report shows that 50% schizophrenics and 65% manic depressives were discharged as recovered, as compared with 10% and 15% in cases ill for five years or longer, but there was still much improved adjustment in 40% of cases.

Relapses do occur in about 9% of the discharged group and this is a matter which should be realized, but some of these will again be benefited by a more radical and revised operation.

PERSONALITY CHANGES

I now propose to deal briefly with some of the more subtle personality and social adjustment changes which might occur after psycho-surgery of any sort. These have aroused considerable controversy and are an index of individual enthusiasm, in the investigation of frontal lobe function, rather than an objective view of the end-result

with the patient's pre-operative state as the index of measurement. In themselves these investigations are of the greatest importance, but from time to time perspective is lost, resulting in hysterical outbursts not unlike those referred to earlier in this communication. I would urge that the 'principle of dual effect' should not be lost sight of.

No one has yet advocated prefrontal leucotomy or any other psycho-surgical procedure as a method of improving the functions and adjustment of the normal, well-balanced mind. Neuro-surgeons are well aware of the complexity of neural function and the even greater complexity of the many modulating processes in respect of the highest social, ethical, spiritual and intellectual functions which the frontal lobes are called upon to perform. On the contrary, we have all been surprised in many instances at the very few disabling effects of larger ablations of both frontal areas. It has become clear that ablation of one or both frontal lobes will cause very different reactions in different individuals. Sir Geoffrey Jefferson some 20 years ago reported the disabling mental effects of removal of one frontal lobe. We can all find such cases but there are many more cases in which a similar procedure will cause no detectable mental change. Herein lies one of our great difficulties, viz. what would be the effect in each or any individual case of a leucotomy or frontal lobe ablation. It is just as well to remind ourselves of the fact that highest intellectual integration is by no means confined to the frontal areas of the brain; in fact, disablement of intellectual function may well be much more bizarre after quite minor ablations such as the de-capping of a deep-seated tumour in other regions of the brain.

It is difficult, therefore, to understand how Mr. Radford, in his address to the Medical Council, could logically exclude what he termed ordinary brain surgery when he was reported as saying: 'This system of curatorship would not affect ordinary brain surgery procedures.' What, then, are these sinister effects which may occur after psycho-surgical procedures? As I have already indicated, no one could deny the possible occurrence of unwanted 'side-effects' but there is no way of predicting such events and no amount of legal curatorship or preliminary discussion would help to clarify the issue or afford protection to the patient from such events. It would be just as logical to decide that no surgeon should remove a malignant growth anywhere in the body unless the patient could be assured by legal curatorship or by supervisory medical opinion that there would be no recurrence of the growth. The absurdity of such a suggestion presents itself immediately. Mr. Radford was also reported as having said that the operations of leucotomy or lobotomy 'could be regarded as illegal because removal of part of a person's body was classified as maiming'. It might be just as well to remind ourselves that leucotomy or lobotomy is one of the few surgical procedures in which no part of the body is removed. Mr. Radford is a general surgeon and I would like to remind him of the removals of the appendix, gall bladder, stomach and amputations of limbs, which have been his lot—surely these, by his own definition, need scrutiny?

INTELLECTUAL FUNCTIONS

Many patients as tested by standard performance tests show an improved I.Q. after leucotomy; it is generally

conceded that these patients are those who have shown a lowered I.Q. within the cloudy setting of their pre-operative psychotic state. Many patients who give a high I.Q. performance pre-operatively show a 10-15% drop after operation, but just as many show no change. For example, I have a patient who, since leucotomy, has taken up a degree course of electrical engineering at the University of the Witwatersrand and is now in the final year and is not experiencing any more difficulty than other members of the class.

Memory and the capacity to learn do not seem to be impaired after leucotomy and more often than not show improvement on the pre-operative state. But intelligence and the desire or driving force to use intelligence to the full are to be differentiated; and we all agree that many, but not all, patients after leucotomy show some lack of drive or ambition, a tendency to let things slide, a preference to read a novel rather than something of educational value, to go to a football match or the pictures, rather than devoting out-duty hours to extra study with a view to personal advancement—this is a trait which could be equally well demonstrated in not a few persons who have not been leucotomized. Here is one of the losses—this loss of drive after operation. Now let us apply to this loss the 'principle of dual effect' by example of an individual case, and my patient who is at the University might well be cited; but let me take a more average case from the report of the Board of Control—a schizophrenic who is discharged home and listed as a 'citizen'. He is able to obtain a job or resume his old employment as a factory worker on a lathe, a doorkeeper, lift-driver or salesman behind the counter. He is back with his family and supporting them. He may, on returning home after the day's work, be a little lazy and not help to wash the dishes as was his custom before; he may be a little withdrawn and not mix so well with his wife's friends. At times he may appear somewhat boastful and in argument more garrulous than before. He may be a little greedy and eat a little more than his share of the Sunday roast, and may even stop going to the church where formerly he was a regular attendant. When informed that his child has earache or a temperature he may do no more than accept the news and leave others to rush to the doctor, etc. All these are undesirable character traits, but what are they by comparison with his state before operation?

He was certified insane, and may well have been deluded, hallucinated and agitated, at times attacking his attendants, dirty in his habits, unable to attend to his wants; a person tortured in body and mind. Surely in such a case the scales weigh heavily in favour of the operation, with its attendant risks. We realize then that some of the finer qualities, some of the driving force, uplift, altruism, creative spirit, soul, or whatever else one would like to call them, are in various degrees sacrificed. The degree varies and the loss in many instances is not noticeable. It is my opinion that the degree of such loss would be most manifest in a bilateral frontal lobectomy, and in the lower quadrant leucotomy described by Freeman and Watts. An upper quadrant leucotomy, a topectomy or thalamotomy shows less flattening of the emotion or affective tone of which the above deficits may be considered as components. After all, by operating, we are setting out to do something. How much we do must depend on our pre-

operative assessment; but what is it we are trying to do—what is the purpose? Let us refer to the report of the Board of Control once again which, under the heading *Purpose*, states:

'Crudely described, the purpose of the operation is to break the connection between the patient's thoughts and his emotions. It is to relieve mental tension, to take the sting out of experience, and thus to favour improvement and to hasten recovery from mental disorder. That at any rate seems to happen in successful cases.'

It would appear to me, and in this I fully agree with Meyer, that success in each case depends on the amount of frontal lobe dispossessed rather than the actual fibre tracts which we think we are severing. The less we have to do, the greater the gain in balance. This breaking up of 'the connection between the patient's thoughts and his emotions' seems to be the essential feature of the operation. Technical knowledge and practical ability are not disturbed by the procedure, but there is loss of some, or many of those personality and psychological substrates of which 'emotion' can be regarded as the driving force. Thus we find flattening in various degrees of such attributes as imagination, creative spirit, ambition, sustained effort and persistent application. There is often flattening of religious fervour. Referring to the religious aspect, MacKay wrote in the *Lancet* (1948): 'While it had been said that after leucotomy people lost their belief in religion, regarding these defectives one would rather say that the operation had killed the devil.' Golla sums it up as follows:

'The patient no longer feels that a thing must be done because of its emotional value, although he still unconditionally acknowledges the social obligations to which he has always been subject. He remains moral and honest, if he were so before his illness, but gone is the emotional urge that leaves him unhappy until certain duties have been performed, or that gives rise to remorse and vain regret for what he may not have done.'

It can hardly be within the scope of the present Judicial Committee of Inquiry to define what shall constitute the integrity of the human act, or whether 'emotional motivation' is an essential component for its fulfilment. Thus, having given full recognition to the deficits which may follow psychological procedures, it may be just as well to turn to some of the more recent reports concerning the benefits:

Mayer-Gross, *Lancet*, 2, 436, 1947, was able to discharge 50% of his 136 patients.

Moore *et al.*, *Co-operative Clinical Study of Lobotomy*, obtained similar results.

Poppen, *Dig. Neurol. and Psychiat.*, 16, 403, 1948, reported on 470 cases as follows:—

20% schizophrenics were able to return to work, and gain in a further 37% of cases;

55% involutional melancholics showed good results, and gain in a further 33%.

The full story of the surgeon's place in the restoration of mind function has still to be written but we must realize that the application of psycho-surgery has gone beyond the research laboratory. It has become a widespread and accepted therapeutic measure. To endeavour to encircle it with restrictions and definitions, or to impose standards of indicative criteria, would be futile and rather like an attempt to reverse the 'march of time'.

NEW PREPARATIONS AND APPLIANCES

DOCTOR'S FIRST-AID BOX

DESIGNED BY DR. J. DUFF SCOTT

This is a small portable box designed to take up the minimum space and to cater for the medical man who comes across



an accident whether on the road or elsewhere. It contains the bare necessities for performing a roadside emergency operation with a view to minimizing shock and pain to the

patient prior to hospitalization. The size of the box is $10\frac{1}{4}$ inches \times $7\frac{1}{2}$ inches \times 3 inches, and it is fitted to a base plate so that it can be firmly attached under the dashboard of a car and locked.

Without the prohibited drugs contained in it, it could be of considerable use in public vehicles or first-aid stations.

The contents are:—

Tourniquet	4 x 3 inch bandages
Scalpel handle	1 tube morphine grs. 1
Scalpel blades	Syringe in case
1 pair surgical scissors	2 tubular omnopon
1 pair S.W. forceps	$\frac{1}{2}$ -inch elastoplast
Iodine	2 tubes catgut with needles
Alcohol	Boric lint
Chloroform	2 oz. cotton wool
Distilled water	1 tube tannafax
4 triangular bandages	1 box amps. adrenalin

The Figure illustrates the box, the drawer, and the contents. It was made for me by B. Owen Jones, Ltd., P.O. Box 36, Boksburg, Tvl.

ASSOCIATION NEWS : VERENIGINGSNUUS

MEDICAL ASSOCIATION OF SOUTH AFRICA: SOUTHERN TRANSVAAL BRANCH

MEMORANDUM ON THE WORKING OF THE INTERIM SUSPENSION ORDINANCE

(Drawn up at the request of the Administrator-in-Executive)

The Association wishes to draw your attention to the fact that from the outset it objected to the principles as outlined in the Draft Ordinance of 1946, on the following grounds:—

1. That in Johannesburg particularly, and to a lesser extent in Pretoria, there were insufficient beds in the Provincial Hospitals of these two towns for all who required hospitalization. In Johannesburg itself there was insufficient hospital accommodation for the indigent who had a prior claim to the accommodation available in the Provincial Hospitals.

2. The Province was not morally entitled to provide free medical treatment for those who could well afford to pay for such treatment.

Out of solicitude for the sick poor, the Association insisted that the Ordinance should be amended to provide that if there was alternative accommodation available, this class of patient should have priority of Provincial Hospital accommodation. This point was conceded in mediation, as was also the point that those who could well afford to pay for their medical services should do so.

Our fears as to the insufficiency of accommodation have proved to have been justified. In Johannesburg, the hospital is over-crowded. Edenvale Hospital, in so far as nursing facilities permit, is also over-crowded, and in addition, we understand that the Hospital is hiring 130 or more beds daily in nursing homes.

For a time an attempt was made to implement the Ordinance fully, and beds were hired for those who could not obtain accommodation in the Provincial Hospitals but who wished to take advantage of the free hospitalization scheme and yet elected to be treated by their own doctors. We understand that the daily average of beds hired in Nursing Homes during this period was from 600 to 800. We are informed by Dr. Mills that the average stay in these nursing homes by such patients, was no longer than for patients treated in the Johannesburg Hospital, nor was the daily cost per patient any higher.

This facility was withdrawn on the instruction of the Provincial Executive Committee, on the grounds that it was contrary to the provisions in the Ordinance, and therefore

illegal. It is difficult for the Association to understand this ruling, as if it is illegal for the Province to hire beds for private cases, it must also be illegal for it to hire beds for hospital cases, as it is doing at present.

Because there were objections to an outright means test, the Province substituted, under the Interim Suspension Ordinance, a procedure designed to ensure that those who could well afford to pay for medical treatment should not obtain this in hospitals. This formula is so nebulous and the procedure so lax, that flagrant abuses must inevitably occur.

Before the introduction of the 1946 Ordinance, it was difficult, but never impossible, to have an indigent patient who urgently required treatment admitted to hospital. The position to-day is that despite the increase in the number of beds, all available accommodation is invariably booked by 9 a.m. each morning, and as a result of this shortage, patients are discharged who are not fit to be discharged. The reason for this is obvious. At present, the hospital is treating numbers of patients who can well afford to pay for their medical care; some of these could even comfortably pay for both hospital accommodation and medical treatment. The majority, however, could not afford to do so. However willing and able this section may be to pay for private medical treatment, they cannot afford to pay both for medical treatment and hospitalization, and here we would like to point out that as a general rule the cost of accommodation, food, nursing and drugs far exceeds the medical fees. For this reason, many in this class are compelled to seek free hospitalization, with the result that in Johannesburg they have to be attended by the hospital staff, although they would prefer and are able to employ their own doctors.

Through hiring beds in nursing homes for hospital cases, the Province is actually subsidizing the nursing homes, and preventing the normal process of competition bringing down the cost of accommodation to the private patient. In addition, the Province is competing for accommodation in nursing homes with that section of the public which is compelled to employ its own doctors.

The situation in Pretoria is not quite comparable to that

in Johannesburg. A substantial proportion of the beds in the Pretoria Hospital is available to patients utilizing the services of their own doctors. In addition, the Andrew McCool Hospital is exclusively reserved for such patients.

In the Plateland, the full benefits of free hospitalization are being enjoyed both by the public and by the profession. The Provincial hospitals in the Plateland provide the only hospital accommodation available, and persons of all economic classes have equal access to free hospital accommodation. It is not surprising that the major proportion of European patients in the Plateland hospitals, therefore, choose to be treated by their own doctors.

Taken by and large, there is no shortage of accommodation in Plateland areas. Thus the patients, being relieved of hospitalization costs, are the better able to afford to be treated by the doctor of their own choice.

To sum up, the present situation is entirely inequitable, both from the point of view of the advantages given to the people of the Plateland and the doctors in those areas, *vis à vis* the disabilities imposed on the public and on the profession in Johannesburg.

The Augmented Executive Committee wishes to put forward the following suggestions, which it considers to be in conformity with the declared policy of the Association, in respect

of your request for a formula to rectify the disabilities outlined above:

1. Pending the construction of adequate hospital accommodation in Johannesburg, the Province should acquire, either by purchase or hire, sufficient beds in nursing homes for the needs of all patients in Johannesburg who require hospital care and attention.

2. The introduction of a means test for free medical treatment in hospitals, both for out-patients and in-patients, as provided for in the Ordinance of 1946, as amended.

3. The return to a system of honorary medical services for the indigent, except in so far as the exigencies of the needs of patients in hospital necessitates a complement of full-time staff.

We wish to make it clear that the Augmented Executive Committee has not had an opportunity of obtaining the views of the individual members of the Association in the Transvaal on the third suggestion, i.e., on the return to the honorary system. We are, however, aware that a considerable number of practitioners at present holding paid part-time appointments are prepared to return to the honorary system, under the conditions quoted above.

L. I. Braun,
Chairman, Augmented Executive Committee.

SOUTHERN TRANSVAAL BRANCH

STATEMENT BY THE MINISTER OF HEALTH AT THE MEETING HELD ON 17 JULY 1951

I would like publicly to express my appreciation and gratitude to Professor Moncrieff for having addressed this large body of colleagues in South Africa who are in the forefront of the strenuous battle for health in this land. It is a particular pleasure for me to be able to take part here to-night in the discussion.

I wish to call attention to Professor Moncrieff's remarks about the association of rubella with congenital deformities. This matter is having very serious consideration here in South Africa.

The question of nutrition for the whole community is being considered, and I have already stressed the points made by Professor Moncrieff, namely, the importance of vitamins, minerals, etc. I agree with Professor Moncrieff that by tackling the problem of nutrition in this land we would be tackling the largest single factor in the fight against disease in South Africa.

I do not for one moment lose sight of the importance of the treatment of disease. This has always loomed very largely in my view. By the treatment of disease in detail we, as a profession, do reach millions of people. But when you take into account that in a community of 12 millions, eight or nine millions, not only Natives, not only Coloureds, but Europeans also, suffer from malnutrition or need nutrition, then you will realize that here is the main cause of disease which must be combated at another level than that of detailed treatment of disease. To-night the importance of the treatment of disease has been stressed, but we must tackle the larger single causes, sanitation and nutrition, so that we can do something effective in our own lifetime. We must put back into the food of this country the proteins taken out of both our maize meal and wheat meal. I need the moral support which will enable me to say to this country that you must tackle this problem on a level higher than the mere treatment of individual illnesses and individual diseases, by supplying to the whole community something which it lacks.

It would be no use saying two million eat too much protein that two million could do with half, and we will give the remaining half to the others. It will be necessary for us to put into what food is available those things which are lacking and which we have taken out.

For many years past we in South Africa have realized through the veterinary scientists that we have to give to animals balanced rations having a certain nutritional value, without which we cannot have satisfactory pigs or cattle. Whereas we have been prepared to apply this scientific knowledge to our lower animal kingdom, we have not been prepared to apply it to the higher animal kingdom. Here we have something

which we can tackle in an effective manner. We can put back through the media which we have in large quantity in South Africa the nutritional value which has been removed or which is lacking.

We sell our mealie meal at a subsidized price. I know that in England they speak in terms of hundreds of millions in regard to the subsidization of food. Here we speak in terms of 18 millions, which is quite a large amount when you think of conditions in South Africa, with its lowly-paid community. Our aim is to produce nutritious food at a price the whole community can afford.

Professor Moncrieff stressed the importance of nutrition in the ante-natal condition. I have taken a rough index from the figures I have been able to secure on tuberculosis. We have ample evidence in South Africa that the state of nutrition in different parts varies, and changes rapidly with the migration taking place from the coasts inland. In the migratory portion of the population the death rate is 24 times higher than that in other portions—and this applies not only to Natives but also to the Coloured population. The problem is so largely one of nutrition, that it is my first duty to see what can be done. I would like to add that it has always been my creed that the health of the community has no political angle whatsoever.

The sum of £25,000 has been made available to enable experts to carry out the first experiments. In these, I am being guided by scientists and not merely going on lines that I myself have found. We hope to fortify maize and wheat meal with casein of milk, maize and wheat germ and oils. We have not enough normal protein to feed three or four million people, but we have enough sea protein. I have gone to the extent of testing these experimental foods myself, such as sausages made of whale meat.

That is one aspect of public health, and now I would like to say something about another. After many years of consideration, having gone through all phases, such as that of the late Dr. Baumann, the Ministers and the Health Services Commission with Dr. Gluckman at the head, I have reached calmer conclusions. We feel that we should in South Africa make available to as large a portion of the population as possible not only the important sanitation and nutritional services, but also personal health services. In order to do that, we are training medical men to compete with themselves, and I have heard no protest from my colleagues about that. There is a vast field in South Africa where we have to apply the knowledge which we have. It is important that this knowledge be universally applied to the whole community, and not only to

those who can pay. I have thought on the lines that it is not satisfactory and it is not a sensible situation which has arisen in this land, where the hospitals which deal with detailed illnesses and fall under the Provincial Administration are almost entirely divorced from other aspects of medicine, looked after by the Central Government. I believe that there must be a link between all the work of the doctors throughout the country who are treating diseases of the individual, and with those hospitals dealing with more serious phases.

Whether we are thinking in terms of health centres, clinics, district surgeons or private practitioners, there should be a definite association between these agencies and the hospitals.

The expenses in connexion with hospitals have grown from £2,000,000 to £14,000,000. A larger proportion of the funds should be directed to securing the health of the community than is being applied to personal health services outside hospitals. Funds are not being used to the best advantage, because there is no link between other agencies and the hospitals. We could give local authorities and the Provincial Administration a larger interest in preventive medicine, but there should be central financial control which would be responsible for salaries, etc., in connexion with all medical services previously failing under the Central Government, the Provincial Administration and the local authorities.

We should co-ordinate the interests of the middle and lower income groups of the population. In this, the Medical Association could assist. I have come to the conclusion that an insurance scheme would be the best way of giving security to the population, which does not know from month to month what the cost of illness will be. It seems to me that, in association with the free services given by local authorities, etc., we should make it possible for the whole community to be given the services they need. They should be able to call upon services through a central contributory scheme throughout the whole country. Then we should give not free hospital services, but the whole community would be entitled to services for which they have in effect paid a certain amount, and the rest would be paid through taxation. We should not lose the tremendous force of local effort and local interest, which is of the utmost importance to the whole community.

This is a very rough and ready indication of the lines on

which I believe that we should attempt to proceed. I believe that the scheme will have the support of the profession. If I have departed from my earlier enthusiasm for free health services, this is for practical reasons, because it is no use flogging an obstinate horse. We must proceed on lines acceptable to the profession and acceptable to the community.

I have indicated this direction in the Senate and in the Lower House, and now do so for this important section of the profession, and trust that we will really get together to do something which is of the utmost importance to the middle and lower income groups in his land.

I look forward to the active support of the community, and I have faith in the future and faith in what I am trying to do.

In answer to a question put by Dr. Green, the Minister stated that he visualized the scheme as a medical aid scheme, under which the medical practitioner would be remunerated on a 'per services rendered' basis. There would be free choice of doctor, but this choice would have to be limited to a certain radius. Only those of the profession who were prepared to work to the schedule which would be laid down should accept service under the scheme. Apart from the contribution made to the fund, it might be desirable for the patient to pay a proportion of the fee for individual visits, otherwise there might be abuse.

Those contributing towards the scheme would be in the £300-£600 and £600-£1,200 income groups. People who contributed would have possible privileges as compared with those who paid nothing at all.

Dr. Shapiro asked the Minister whether he would use the Tariff of Fees for Approved Medical Aid Societies, which had been laid down by the Association in the light of long experience.

To this Dr. Bremer replied: 'When you buy wholesale you buy cheaper.'

He informed another questioner that it was not the intention that the doctors participating in the scheme would be in the full-time employment of the State.

The Minister gave the meeting the assurance, in reply to a question put by Dr. Bell, that he would develop the scheme in the closest co-operation and consultation with the medical profession and its representatives.

NATAL COASTAL BRANCH: MEETING HELD ON 27 JUNE 1951

SYMPOSIUM ON BACKACHE

Speakers: Dr. D. J. Malan, Dr. J. Duncan, Dr. Max Gitlin, Mr. R. C. J. Hill.

Dr. Grant-Whyte in the Chair and 42 members present.

Dr. Malan opened the symposium on Backache and gave a survey of the subject from the gynaecologist's angle. He considered backache in the female the commonest disorder, between the ages of 30 and 50 years, varying from a mild ache to a back breaking 'in two', and commonest in the lumbar and sacral regions.

Usually patients considered that the pelvic organs were responsible for this disturbance. This is a fallacy as a general rule, although in a few instances backache occurs in pelvic abnormalities.

Dr. Malan also stated that when an assurance was given that the pelvic organs were in order, the backache improved. He also warned against promising a cure of the backache when the pelvic condition had cleared up. In general, one may say that if the pelvic pathology is such that it causes congestion or oedema of the tissues, or undue tension on adhesions or the utero-sacral ligaments, or if there is an infective or inflammatory condition present, the backache is probably due to the pelvic abnormality.

The backache in these conditions is caused by any one of the following conditions or by any combination of them:

1. Passive congestion of the pelvic tissues and organs, especially of the veins. This congestion causes irritation of the neighbouring nerves and pain is referred to the sacro-lumbar region through the sacral nerve (autonomic, vegetative).

2. An inflammatory reaction in the pelvic lymphatics, particularly along the course of the utero-sacral ligaments.

3. Pull upon the utero-sacral ligaments which contain

sensory sympathetic nerve fibres. This possibly is the important and direct factor in the causation of backache. In this connexion it is interesting to note the clinical experiment by L. Fraenkel who divided the utero-sacral ligaments in a case of posterior parametritis and interposed a piece of fat. He succeeded in this way in causing the disappearance of the backache.

Simple pressure on the sacral plexus or nerves, e.g. retroverted uterus or a pelvic tumour is no longer considered to be a usual factor in the causation of backache.

A prolapsed uterus may cause severe backache. Chronic cervicitis with or without an erosion of the cervix associated with inflammation in pelvic lymphatics causes backache.

In pelvic neoplasms the pain varies in intensity, according to amount of congestion. Piles and congestion are causes of low backache. Dr. Malan referred to post-partum backaches due to getting patients up too soon.

Treatment. Treat the abnormality; more frequently treatment is conservative than operative; in cases of adhesions operation is necessary.

Dr. J. Duncan reviewed the position from the angle of the general practitioner. He thought that patients probably complained of referred symptoms. The condition was mostly confined to adults. Numerous conditions as causative factors were mentioned: genito-urinary, malignant conditions of the pelvis and vertebrae, rectal conditions—and recommended more frequent examinations with the speculum—chronic constipation and obstetrical conditions.

Dr. Duncan considered early 'getting up' in the puerperium as a good measure, and a post-partum check-up of importance. Mention was also made of orthopaedic conditions, joints,

fibrosis and disc lesions. In fibrosis toxic foci should be sought for—in the teeth, cervix and lumbago. He also referred to the psychosomatic backache.

Dr. Max Githin discussed low back pain from the angle of physical medicine. He confined his address to:

1. Posture in its relation to low back pain.
2. Fibrosis.
3. Trauma.

The functions of the spinal column were entered into in detail.

The skeletal muscles have two kinds of activity:

1. Execution of movements.
2. Maintenance of posture.

Posture in its Relation to Low Back Pain. The postural tone of muscles maintain posture without fatigue of effort and is quite a separate or distinct activity. Postural activity is acquired early in life. A fairly accurate description of good posture is the upright position, e.g. head up, chin up and chest up.

Of postural defects the following occurs: dorsal kyphosis, lordosis, pelvis tilted forward, lower abdominal muscles are stretched, lower back muscles contracted, femora are rotated internally and feet pronated. The most common postural deformity associated with low back pain is an exaggerated lordosis in the dorso-lumbar region.

The speaker referred to effects of continued use of high heels—in which the body is tilted forwards. The change effected in the spinal column causes back strain and is responsible for some of the sacro-iliac strains and painful backs.

Neurasthenia, mental fatigue, inertia due to overwork and worry are frequent causes of postural deficiency and of the deformities arising therefrom.

Treatment:

1. Prophylactic.
2. Postural training.

Fibrosis. As a clinical entity it has long been accepted, although its pathological foundations are slender resting almost entirely on theories. Stockman, Kavoc and Copeman were quoted concerning the theory of fibrosis. Pain occurs in certain focal points—and referred pain is not situated far from the real pain.

Treatment. Physiotherapy, infra-red or short-wave diathermy, followed by deep friction massage, histamine ionization, novocain injections, surgery and removing herniated fat globules.

Trauma.

1. Injuries with damage to the bony structure of the spine.
2. Damage limited to the muscular ligamentous system.

X-rays are invaluable.

The most common injuries are:

1. Lumbar strain.
2. Lumbor-sacral strains.
3. Sacro-iliac strains.
4. Herniated nucleus pulposus.
5. Coccygodynia.

Treatment:

1. Rest.
2. Short-wave diathermy.
3. Histamine ionization.
4. Massage and manipulation.

Mr. R. C. J. Hill reviewed backache from the orthopaedic angle. The types were divided into 2 classes:

1. Without neurological signs and symptoms.
2. With neurological signs.

1. *Without Neurological Signs and Symptoms.* (a) Of the first group backache occurred frequently after trauma in either male or female. In the female after labour. X-rays are negative and clinical findings reveal no bony abnormality, although in the female an exaggerated lordosis may be found.

(b) In this type of backache there is localized pain and tenderness and X-rays may show sacralization of last lumbar transverse process or sixth lumbar vertebra. Pain is due to instability at the lumbosacral area—due to abnormal bony structure.

2. *With Neurological Signs: Nerve-root irritation.* The commonest area of irritation is at the L5 S1 disc. Instability of the spine arises as a result of damage to the disc. The disc collapses backwards and presses on one or another of the sacral nerves—producing signs of left- or right-sided sciatica. There may be a scoliosis or a kyphosis. Next common disc protrusion is between lumbar 4 and 5. X-rays will show the diminution of disc space at L5 S1 area.

Mr. Hill stressed that the treatment of backache must follow certain well-defined rules, if rest, massage, manipulation and physiotherapy do not help. To allay pain and spasm the following treatment is necessary:

1. Sedation.
2. Rest in bed.
3. Manipulation (if no neurological signs).
4. Immobilization.
5. Plastic jackets.
6. Spinal braces.
7. Finally, surgery.

The results of conservative treatment compare not unfavourably with the results of surgery so far as actual disc lesions are concerned.

In support of this paper 12 slides were shown.

NATAL COASTAL BRANCH: MEETING HELD ON 10 JULY 1951

THREE YEARS OF THE NATIONAL HEALTH SERVICE IN GREAT BRITAIN

BY DR. CATHERINE HARROWER, O.B.E.

Dr. A. Broomberg was in the chair and 20 members were present. The chairman introduced the speaker, who, he said, was known to most of us as she had represented Scotland under the auspices of the British Medical Association at the Medical Congress held in Durban five years ago. Dr. Harrower had been President of the Glasgow Division of the Medical Association some years ago and President of the Branch two years ago. At present she represents all the medical women of Britain on a seat reserved on the General Medical Services Committee. She is also the general practitioners' representative on the Regional Consultants and Specialists Committee and sits as a general practitioner on the Group Hospital Management Committee. Dr. Harrower conveyed a message from Dr. Siebel, at present in Britain. She gave a most excellent survey of the present position of the National Health Services in Britain.

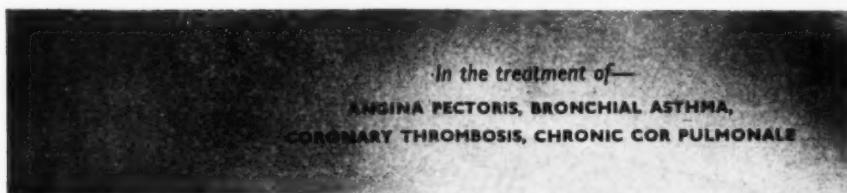
At the commencement most practitioners were against nationalization, as shown by the plebiscite, but finally the profession went in although there was a good deal of internal dissension. The opposition, however, modified the scheme which was entirely non-political.

Dr. Harrower gave the history of the service which was originally initiated by a Liberal, Mr. Brown. The basis of the scheme was full employment. The National Health Services under the English Act did not include the Dentists. Under the Scottish, the Dentists were included.

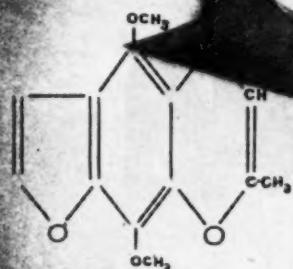
The Act applies to 100% of the population. Contributions cover all health services, sickness, maternity, funerals, etc. All general practitioner services, appliances, drugs, local authorities, public health, home nursing, ambulance, Children's Act, adoption and mentally defective children and tuberculosis prevention.

The Administrative Set-up (General Practitioners). There is a local executive council which consists of professional representatives, representatives of the Secretary of State and of the local authority. An equal number of professional and lay members and the chairman are nominated by this body, and the general practitioner enters into contract with that service. The Advisory Committee is the local medical committee and is entirely medical and 50 people are elected by their fellows.

Hospital Administration. There are five regional Hospital Boards in Scotland—four based on university areas and one



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based on Inverness. The Hospital Board comprises representatives from hospitals and universities and its chairman is a medical man. The Regional Consultants and Specialists Committee is advisory to this body. The Minister is advised by a Central Health Council.

The Central Health Services Council works with eight committees. Apart from the statutory provisions of the Act there are two top professional committees consisting of the General Medical Services Committee and the Consultants and Specialists Committee. These are autonomous bodies who report to the Council of the British Medical Association and are under the umbrella of the British Medical Association and work very well indeed, they negotiate directly with the Minister.

The Payments of the People. For a self-employed man, his wife and children up to 16 years, 6s. 2d. per week. For a self-employed woman, 5s. 1d. per week. The employer pays 3s. 7d. to 3s. 3d. per week, and an employed person pays approximately an equal amount. This is compulsory. Tuppence from each man and 8d. from each woman go to the health service. General practitioner treatment consists of all domiciliary treatment, consultations, medicine and appliances and certificate for eye testing. Dental services are directly under the dentist.

Maternity Services. The general practitioners can or need not undertake these services. At least three antenatal examinations by the doctor must be done, a state-registered midwife is supplied. If the labour is short and normal a doctor does not need to attend, but he or she must attend within 24 hours afterwards. The payment for this is £7 7s., and there are no bad debts. In addition, a payment of £4 is made in respect of the father's insurance to the patient. In the case of an employed woman the maternity benefit is 36s. per week for 13 weeks (prior to and after delivery). If a consultant from a hospital is required for a domiciliary visit a £4 4s. fee is obtained for the consultant and in the case of an emergency minor operation or a forceps delivery £10 10s. is paid to the consultant. In isolated areas a subsidy may be paid to a doctor irrespective of the number of people in the area and is made up to £800 to £1,000 (e.g. the Highlands and Islands scheme in Scotland). In rural areas payment is given on the number of miles and this makes up for the paucity of the population. In undesirable areas such as coal-mining areas in Wales there is an Inducement Fund for the encouragement of doctors in these areas.

The Hospital Services. These function as before and people regard these services as a right and not a charity. Private beds, however, must be paid for and may be 25 guineas per week. As far as appointments were concerned the people on the staffs were kept on. In the case of the general practitioner if anyone dies or retires, this is reported to the local committee who may or may not fill the vacancy by advertisement. A practitioner may apply to join the list and commences as an assistant, then as assistant with a view, then as a partner who will succeed to the practice. This will ultimately be the usual method of accession to practice.

Consultants and Specialists. £2,300 per annum for hospital work, plus £400 for teaching and up to £800 a year on domiciliary visits, i.e. a total of £3,500 is the remuneration for senior people comprising chiefs and sub-chiefs.

Merit Awards. These are under the chairmanship of Lord Moran. These awards are given to teaching professors from £500 to £2,500 for five years and this counts for the superannuation scheme. Registrars are having a very difficult time. They have specialized and many of them are being cast off. Many of the people under this group are making less money than before. They are paid for hospital work and are having more leisure. The general practitioner is paid on a pool system and receives 16s. 4d. per head. This maximum list is 4,000 persons, with an assistant 6,400. The average in

Glasgow is under 2,000. The general practitioner's earnings may be £3,400 of which 36.5% goes in expenses. One benefit of a general practitioner is that he may apply to be called a trainer. The assistant is paid by the Government at the rate of £700 and the general practitioner gets £150 a year to train them.

The Superannuation Scheme. Six per cent on all monies comes from the Government sources, the Government adding 8% to that. At the age of 65 one retires on a pension which works out 1/60 for every year of practice, e.g. after 40 years of service 40/60. For consultants and specialists it works out 1/80 of the best three years.

Effects on patients and doctors. The general practitioner works harder for less money. The suburban practitioner is badly hit and has £1,800 or so on the list—16s. 4d. per head as against £4 or £5 per head previously. Patients come with small ailments, the visiting hours are longer, the surgeries are very full, one has to sign a chit for all medicines and give a fresh prescription each time. There is a purchase tax on medicine, except insulin and liver. More health centres and nursing help was expected and a little disappointment occurred in this direction. Young people must make up their minds immediately on qualifying what they are going to do and whether they wish to become consultants and specialists. If they do and commence their training they are not welcomed in general practice. Tuberculosis work is somewhat frustrated. The M.O.H. is responsible for preventive work but he has no beds and the Regional Hospital is responsible for diagnosis and treatment. On the whole the general practitioner is not satisfied with the remuneration he gets.

Following on this lucid and excellent survey Dr. Harrower invited questions and a very lively discussion followed for a long period. The chairman, Dr. Broomberg, set the ball rolling and asked the following questions:

What was the cost of the scheme to the Government at the commencement and now? Were there sufficient beds in urban and rural areas?

Dr. Harrower stated that the original estimate for 1948 was £177 million. The 1950 cost which has a ceiling on it is £400 million. There is a sufficiency of hospital beds and the cottage hospitals in the rural areas run as before. There is no medical difficulty whatsoever, but there is a great domestic shortage, as for example in Scotland where there is a shortage of 500 personnel for hospitals.

Cost to the Government. The scheme works out at 18/5 per head of the population for general practitioners and maternity alone. The drugs for the first two years amounted to five prescriptions per head of the population, £1 2s. 9d. per head for dental service and 13s. 9d. for eye services.

Dr. Lilian Rafferty, Dr. Phillips, Dr. Friedlander, Dr. Morris, Dr. Taylor all entered into the discussion.

Dr. Harrower in replying to the questions, stated that the present National Service worked very well in Scotland and that after three years of this National Health Service the scheme was still evolving. Old people had taken full advantage of the service. The infants and children were never as healthy and as well as at present. Immunization services were excellent and in the last year no child had died from diphtheria in Scotland. The intermediary age group consisted of nervous cases and was in poor health, probably as a result of the years of hardship of war.

In reply to a question on the poor man in medicine, Dr. Harrower was able to assure Dr. Alan Taylor that educational grants were available, also facilities were available for post-graduate study, and maintenance allowances for locums was 14 guineas per week.

The chairman thanked Dr. Harrower for her delightful address and sent greetings to the Glasgow Medical Association from the Natal Coastal Branch.

PASSING EVENTS

We deeply regret to record the deaths of Dr. I. B. Gardiner and Dr. W. P. R. Swemmer.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH
At a Quarterly Meeting of the College held on Tuesday, 17 July, Sir David K. Henderson in the Chair, the following were elected Fellows:

Roland William Riddell, M.D. (Lond.).
Christopher Clayton, M.D. (Edin.).

The following were elected Members:

Wilfred Ingram Card, M.B. (Lond.), F.R.C.P. (Lond.).
Prem Chand Gupta, M.B. (Lucknow).
Govind Prasad Shrivastava, M.B. (Madras).

Patrick Joseph Gerold O'Connor, *O.B.E., M.B. (N.U.I.)*.
 Norman Alister Lamberty, *M.B. (Edin.)*.
 Charles Warrington Howden, *M.B. (Otago)*.
 Lillian Gertrude Moore, *M.B. (Belf.)*.
 Bernard Maurice Jacobson, *M.B. (Rand.)*.
 Bernard Snell, *L.R.C.P. (T.Q.)*.
 Ronald Stewart McNeill, *M.B. (Edin.)*.
 James Henry Bruce, *M.D. (Belf.)*.
 Aaron Gillis, *M.B. (Dunelm.)*.

Ronald Edward Church, *M.B. (Cantab.)*.
 Alexander Crawford Houston, *M.B. (Belf.)*.
 Ian Hamilton Hume, *M.B. (Syd.)*.
 Mohammed Ezzat Wahba, *D.M. (Cairo)*.
 Roenton Burjor Khambatta, *M.B. (Bomb.)*.
 Kenneth Sinclair, *M.B. (Edin.)*.
 James Thomson Wright, *M.B. (Edin.)*.
 Vithaldas Dwarkadas Parekh, *M.B. (Bomb.)*.
 William Harry Lloyd, *M.B. (Edin.)*.

CORRESPONDENCE

SICK FUNDS, R.M.O.'S AND THE MEDICAL PROFESSION

To the Editor: The memorandum by Dr. C. H. H. Coetze, vice-chairman of the R.M.O. Group, was quite amusing to read, but at the same time disturbing. It showed only too clearly how deeply the once proud medical profession has sunk, that the doctors have to approach the chairman of a Sick Fund and beg to raise the retiring age and to provide a pension fund. That amazing situation is the logical outcome of the antiquated state of the closed panel system, which in the more enlightened countries in Europe has not existed for at least a quarter of a century. It has been replaced by the open panel, where the patients may consult any doctor they like, provided he agrees to the approved fees. Therefore in these countries the bosses, directors, union secretaries or managers of sick funds cannot dictate to the doctors, as they do here with retiring age, costs of prescriptions, duration of sick leave for the patients and so on.

As I said to you in a letter a few months ago a state as mentioned in the memorandum existed in Europe in the years 1900 to 1905, but then the different Medical Associations saw clearly the danger to the profession and intervened, with the result of free panel and freedom for the profession. If the Association does not interfere in that matter very soon, then the medical profession will be doomed, the medical schools in the country may be closed and it will be enough to send 200 students yearly to England or America for their education; more will not be needed. Dr. Coetze's points I find very weak. In reality the R.M.O.'s have no reason to complain. As an average they get £1,000 a year, which is safe money and for which they have to do a certain amount of work. They knew the conditions before they applied for the position. On the other hand, most doctors would only be too pleased if they could reckon on £1,000 a year safe money. I have also still to see the first R.M.O. who neglects his private practice for the sake of the Sick Fund, or is prevented from working up a big private practice. There is also the point to consider which the Sick Fund members complain of. They definitely want to get out of the Sick Fund what they can (that is human nature) and run perhaps more often than is strictly necessary to their doctor. The doctor complains and says the patients exploit him; he is right, but so is the patient, who complains that his doctor does not give him a fair deal. All these things would disappear with an open panel. There is free competition and exploitation is at least very difficult.

By the way, the R.M.O.'s are not the only ones who are not satisfied. The same goes on with quite a number of doctors in other Sick Funds. In one particular Fund I know of there is also a closed panel and one of the doctors concerned told me only a short time ago that he would not be very sorry if they kicked him out. He said the restrictions concerning prescriptions, sick leave, filling in of forms and haughty behaviour of the Union secretaries, etc., are very irksome.

I hope, now that we have an Assistant Secretary for our Association, that the matter of the closed panel will be gone into. I personally will most probably not see a great change during my professional life, as I am already in the latter half of the 30's and soon near the end of doctoring.

H. Baum, M.D.

4 Melrose Mansions,
 Cavalcade Road,
 Green Point,
 28 July 1951.

FREE HOSPITALIZATION IN THE TRANSVAAL

To the Editor: May I beg the courtesy of your columns to seek ventilation of a matter of urgent public importance. I am one of the many who feel puzzled and distressed that the public and profession of Johannesburg are not being given the same terms of hospitalization as Pretoria and the Plateland of the Transvaal, where a patient has free choice of doctor and where the doctor can place his patient in a free hospital bed without forfeiting his right to charge attendance fees, as is the case in Johannesburg. Would the Administrator of the Transvaal, as head of the Provincial Hospital Service, be so gracious as to throw light on this discrimination against Johannesburg.

D. P. Erk.

Johannesburg.

28 July 1951.

THE NON-EUROPEAN MEDICAL SCHOOL

To the Editor: With reference to your Editorial on the non-European Medical School in Durban, which appeared in the Journal of 7 July 1951, I would like to bring to your notice the following resolutions passed by the Medical Interfaculty Conference, held recently in conjunction with the annual N.U.S.A.S. congress. Delegates from the Student Medical Councils of the University of Cape Town, the University of the Witwatersrand and Wentworth passed these resolutions unanimously:

1. That this Medical Faculty Conference strongly disapproves of the whole apartheid background of the Wentworth Medical School and urges that this School be unconditionally open to all students irrespective of race, colour or creed.

Further, that this Medical Faculty Conference urges that future Medical Faculty Conferences shall exercise extreme vigilance to ensure that this new Medical School shall not become a segregated and therefore inferior teaching institution, whose graduates are limited in knowledge and in ability and their right to practice their profession without limitations, in accordance with the Hippocratic principles and the Declaration of Geneva.

2. That this Medical Faculty Conference deprecates the slight and financial hardship accorded to the Wentworth non-European students in making their course a seven-year one.

While appreciating the value to the course of a cultural background and of an emphasis on social studies, it is of the opinion that this could be integrated throughout the course, and that the basic sciences of botany, zoology, physics, and chemistry should occupy only one year of the course.

Further, it recommends that this be altered so as to bring the Wentworth School into line with the established Medical Schools, and to facilitate the institution of a uniform medical training at all Medical Schools.

I would appreciate it if you would, on behalf of the Medical Interfaculty Conference, publish these resolutions which were passed by representatives of the majority of medical students in South Africa.

Elton Goldblatt,
 Assistant Faculty Director, Medicine.

National Union of South African Students,
 12 Forbes Street,
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 Johannesburg.
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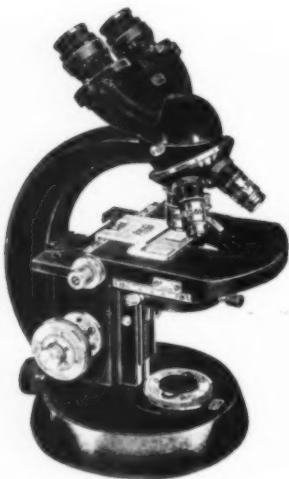
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(Pr S31) O.V.S.-praktyk. Goeie geleentheid vir algemene geneesheer met aantek vir snywerk. Alle faciliteite. Medisyne word aangemaak. Moet tweetalig wees. Jaarliks inkomste £2,400. Eienaar gaan verder studeer. Premie vir klandiesiewerde, instrumente en voorrade, £1,500. Een maand introductie sal gegee word.

ASSISTENSKAP VERLARG : ASSISTANTSHIP REQUIRED

(A W52) Assistantship in established practice in S. Rhodesia required by married South African doctor. Qualified two years.

ASSISTENT/PLAASVERVANGER VERLARG ASSISTANT/LOCUM REQUIRED

(L VI12) Johannesburg from 18 December 1951 to 18 January 1952. £2 12s. 6d. p.d. plus all found and petrol and oil paid

MEDICAL EQUIPMENT

(0107) Leitz microscope £45

(0108) What offers? Complete set 'British Encyclopaedia of Medical Practice' plus all editions of 'Medical Progress' to 1950. Condition as new.

(0109) Zeiss microscope. Condition as new. £55.

(0120) "Standby" model Baumanometer. £10.

(0121) Portable Baumanometer. £3.

(0122) Klinostik Auroscope with Ophthalmoscopic attachment. £3.

(0123) Heavy based Irrigator stand, height adjustable, complete with glass flask and hook to carry vacuolite flasks. £7.

National Hospital, Bloemfontein

VACANCY

RADIOLOGIST

Applications are invited from duly qualified radiologists for the post of full-time radiologist at the National and Tempe Provincial Hospitals, Bloemfontein.

Salary scale: £1,750-50-£1,900 p.a. plus cost-of-living allowance of £256 p.a. for married and £80 p.a. for single persons.

Applicants must be able to assume duty as soon as possible.

It will be expected that the successful applicant will be acceptable for registration as a specialist within twelve (12) months of the date of commencement of his duties.

The post is pensionable and the appointment will be made in accordance with the O.F.S. Hospital Ordinance No. 13 of 1933 as amended.

Applications stating age, qualifications, marital status and experience, must be accompanied by certified copies of certificates and testimonials and must reach the undersigned on or before Wednesday, 19 September 1951.

J. W. Wessels

Medical Superintendent
(Z. 204520)

21 August 1951

Nasionale Hospitaal, Bloemfontein

VAKATURE

RADIOLOOG

Aansoeke word ingewag van daartoe behoorlik gekwalfiseerde radioloog om die betrekking van voltydse radioloog aan die Nasionale Hospitaal, Bloemfontein, en die Provinciale Hospitaal, Tempe.

Salarieskaal: £1,750-50-£1,900 per jaar plus heersende duurtoeslag van £256 per jaar vir getroude en £80 per jaar vir ongetroude persone.

Kandidaat moet so spoedig moontlik dienste kan aanvaar.

Die suksesvolle kandidaat moet gekwalfiseerd wees om binne een jaar na datum van diens-aanvaarding te registréer as Radioloog-spesialis.

Die betrekking is pensioendraaend, en die aanstelling word gemaak ooreenkomsing die OVS Hospitaal Ordonsiasie No. 13 van 1933 soos gewysig.

Aansoeke met vermelding van ouderdom, kwalifikasies, huwelikstaat en ondervinding, moet vergesel gaan van gesertifiseerde afskrifte van sertifikate en getuigskepte en moet die ondergetekende op of voor Woensdag, 19 September 1951 bereik.

J. W. Wessels

Geneesheer-Direkteur
(Z. 204520)

21 Augustus 1951

E.N.T. Outfit

Retiring E.N.T. Surgeon offers at bargain price complete set of E.N.T. instruments and apparatus, including electric ear masseter, electric pharyngoscope, Haslinger bronchoscope and oesophagoscope (Vienna), audiometer (Pillings, Philadelphia), bougies, dilators, etc. Five-shelved white enamelled instrument cabinet, etc. Original cost over £600. Bargain at £300. Apply 'E.N.T.', P.O. Box 209, Maritzburg, Natal.

Required

Registered medical practitioners are invited to apply for the following part-time appointments to a private hospital:

1. Medical Superintendent.
2. Thoracic Surgeon.
3. Physician.
4. Medical Officer.

Details of the appointments can be obtained on application to the Secretaries, P.O. Box 655, Johannesburg.

Skeleton for Sale

Skeleton comprising skull, one each long bones, whole vertebral column, clavicle, scapula, articulated hand and foot, pelvis, sacrum, type ribs 1, 2 and 8. £15 or nearest offer. Write to 'A. T. B.', P.O. Box 643, Cape Town.

Vacant District Surgeonies

Applications for the undermentioned District Surgeonies, accompanied by full particulars as to date and country of birth, qualifications, experience and previous and present appointments of the applicants and the earliest date on which they can assume duty if appointed, should reach the Secretary for Health, P.O. Box 386, Pretoria, not later than 20 September 1951. Testimonials (copies) may be submitted, but the Minister of Health wishes it to be known that any candidate will be regarded as disqualified who directly or indirectly canvasses for appointment.

The appointments are on a part-time basis and private practice is not precluded.

Applicants should state whether they have a knowledge of both official languages, also whether they are competent to diagnose leprosy and venereal disease and to use the modern intravenous and other therapeutic technique in the treatment of venereal disease. Applicants should also state whether they have any experience as a medical officer of health or in any similar capacity. If more than one post is applied for, a separate application should be submitted in respect of each.

Place	Salary Per Annum	Drug Allowance Per Annum
Cape Province	£	£
Fort Beaufort	200	45
Darling (Malmesbury)	150	15
Marydale (Prieska)	200	20
De Doorns	150	15
Lady Frere (Glen Grey)	370	30
Olfantshoek	330	40
Indwe	175	20
Vryburg	625	*
Pofadder	300	40
Orange Free State		
Luckhoff	240	35
Paul Roux	280	30
Transvaal		
Alldass (Zoutpansberg)	350	25
Brakpan	500	*
Emelen	500	100
Natal		
Utrecht	230	50

* Drugs supplied under contract.

The salaries cover all ordinary and routine services but travelling allowance of 1s. per mile for all mileage travelled outside a radius of three miles from headquarters, night detention at 15s. and supplementary fees for certain other services will be payable. Also fees for attendance at courts and inquests in accordance with the tariff of the Department of Justice.

Forms of application and copy of draft agreement will be furnished on application. (30547)

Wanted

Applications are invited for the position of assistant medical officer. The salary will be £75 (seventy-five pounds) per month with a cost of living allowance of £25 (twenty-five pounds) per month. In addition a free unfurnished house will be provided.

Preference will be given to a married doctor with not less than two years' practical experience.

The successful applicant will be expected to commence duty on or as soon as possible after 1 October 1951.

Full particulars concerning the appointment as well as the prescribed application form may be obtained from the Chief Medical Officer, The Mine Hospital, O'okiep Copper Co. Ltd., Namaqualand, C.P.

Printed by Cape Times Ltd., Parow, and Published by the Proprietors, THE MEDICAL ASSOCIATION OF SOUTH AFRICA, MEDICAL HOUSE, 35 Wale Street, Cape Town, P.O. Box 643. Telephone 2-6177. Telegrams: 'Medical'.

Public Service Commission

VACANCIES IN THE PUBLIC SERVICE

1. The attention of medical practitioners, registered with the South African Medical and Dental Council, is drawn to an advertisement appearing in the *Government and Provincial Gazettes* of this week, inviting applications for the undermentioned posts:

Post	Department	Salary Scale
Medical Inspector	Natal Provincial Administration of Schools	£900 x 40—1,100 x 50—1,200
Medical Inspector	Cape Provincial Administration of Schools	£900 x 40—1,100 x 50—1,200
Medical Inspector	Health (Johannesburg, Durban, East London and Cape Town)	£960 x 40—1,120
Senior Assistant Pathologist	Health (Cape Town)	£960 x 40—1,120
District Surgeon	Health (Knysna)	£720 x 30—900 x 40—1,020
Medical Officer	Health	£600 x 30—840 plus privileges of quarters, rations, fuel, light and laundry

2. In addition to salary a cost of living allowance at the rate of £256 per annum (married) and £80 per annum (single) is payable at present.

3. It is emphasized that full and detailed particulars of qualifications and previous experience (including military service) must be furnished but original certificates and testimonials should not be submitted. Application forms (Z.83 and P.S.C. 81a) are obtainable from the Secretary, Public Service Commission, Pretoria, to whom filled-in forms must be addressed.

4. The closing date for the receipt of applications is 29 September 1951. (30696)

Transvaal Provincial Administration

VACANCY: DISCOVERER'S MEMORIAL HOSPITAL, P.O. FLORIDA

Applications are invited from suitably qualified candidates for the undermentioned post at Discoverer's Hospital in the Transvaal.

Applications should be addressed to the Medical-Officer-in-Charge of the Hospital and should contain full particulars as to the age, professional, academic and language qualifications, experience and conjugal status of the applicant and should further indicate the earliest date upon which duties can be assumed. Copies, only of recent testimonials to be attached.

Part-time Orthopaedic Surgeon (1) £205 p.a. 1 session of 4 hours per week and all emergencies. Must be suitably qualified by training and experience.

Closing date of applications: 21 September 1951. Application forms are obtainable from the Provincial Secretary, Hospital Services Department, P.O. Box 383, Pretoria. (30723)

For Sale

Good class prescribing practice averaging £1,500. Cape Town Suburbs. Owner retiring. Residence, seven rooms including surgery and waiting room. Replies to 'A. L. A.', P.O. Box 643, Cape Town.

LUMINAL

First of the phenobarbitones, Luminal has an unsurpassed record of reliability and efficacy. Where powerful sedation, hypnosis or spasmodysis are required, Luminal and Luminal Sodium are ready for use in tablet strengths of $\frac{1}{2}$, $\frac{1}{4}$, 1 and $1\frac{1}{2}$ grains, or in pure powder form. Luminal Sodium is also available in 5 grain ampoules for parenteral use.

PROMINAL

Now officially recognised under the generic name methylphenobarbitum, Prominal has become the drug of choice when sedation is desired without extensive hypnotic effects. It is especially indicated in the routine treatment of epilepsy (grand mal or petit mal). Available in tablet strengths of $\frac{1}{2}$ or 3 grains, or in pure powder form.

THESE STANDARD PHARMACEUTICALS ARE OFFERED BY

Winthrop Products (Pty.) Ltd.

Box 4166
CAPE TOWN

Box 9536
JOHANNESBURG

Box 2461
DURBAN

THEOMINAL

For gradual and prolonged reduction of blood pressure, Theominal combines vasodilator with sedative, to reduce vascular and nervous tension. Each tablet contains 5 grains of theobromine and $\frac{1}{2}$ grain of Luminal. The usual dose is 1 tablet two or three times daily; when improvement sets in, the dose may be reduced to 1 tablet once daily.

PROTHEONAL

When the beneficial effect of an organic iodide is desired in the treatment of hypertension and allied vascular disorders, Protheonal offers a combination of 5 grains of theobromine, $\frac{1}{2}$ grain of Prominal and 2 grains of calcium iodide ditriethanolamine. The usual dose is one tablet two or three times daily; in severe cases, 2 tablets three times daily.

LUMINAL, PROMINAL, THEOMINAL, PROTHEONAL—TRADE MARKS

aspirin

Dulcet

tablets

1 gr. and 2½ gr.

accurately medicated,
yet they



like real sweets

- Easier way to give half-an-aspirin.
- Eaten like candy—no need to divide, crush and disguise the dose.
- Full therapeutic effect of plain aspirin.
- Accurate dosage—two convenient sizes: 2½ grain in bottles of 100;
1 grain in bottles of 100.

also available:

Sulfadiazine Dulcet Tablets

Pink, Aromatic

0.3 Gm. (5 grs.)

Available in bottles of 100.

Triazoline Dulcet Tablets

Pale Green, Aromatic

(Compound Sulfadiazine 0.1 Gm.—Sulfamerazine 0.1 Gm.

Sulfathiazole 0.1 Gm., Abbott). Available in bottles of 100.

Cecon Dulcet Tablets

Orange-coloured, Orange-flavoured

(Ascorbic Acid, Abbott)

50 mg. Available in bottles of 100.

from



laboratories
S.A. (Pty.) Ltd.

JOHANNESBURG
CAPE TOWN
DURBAN